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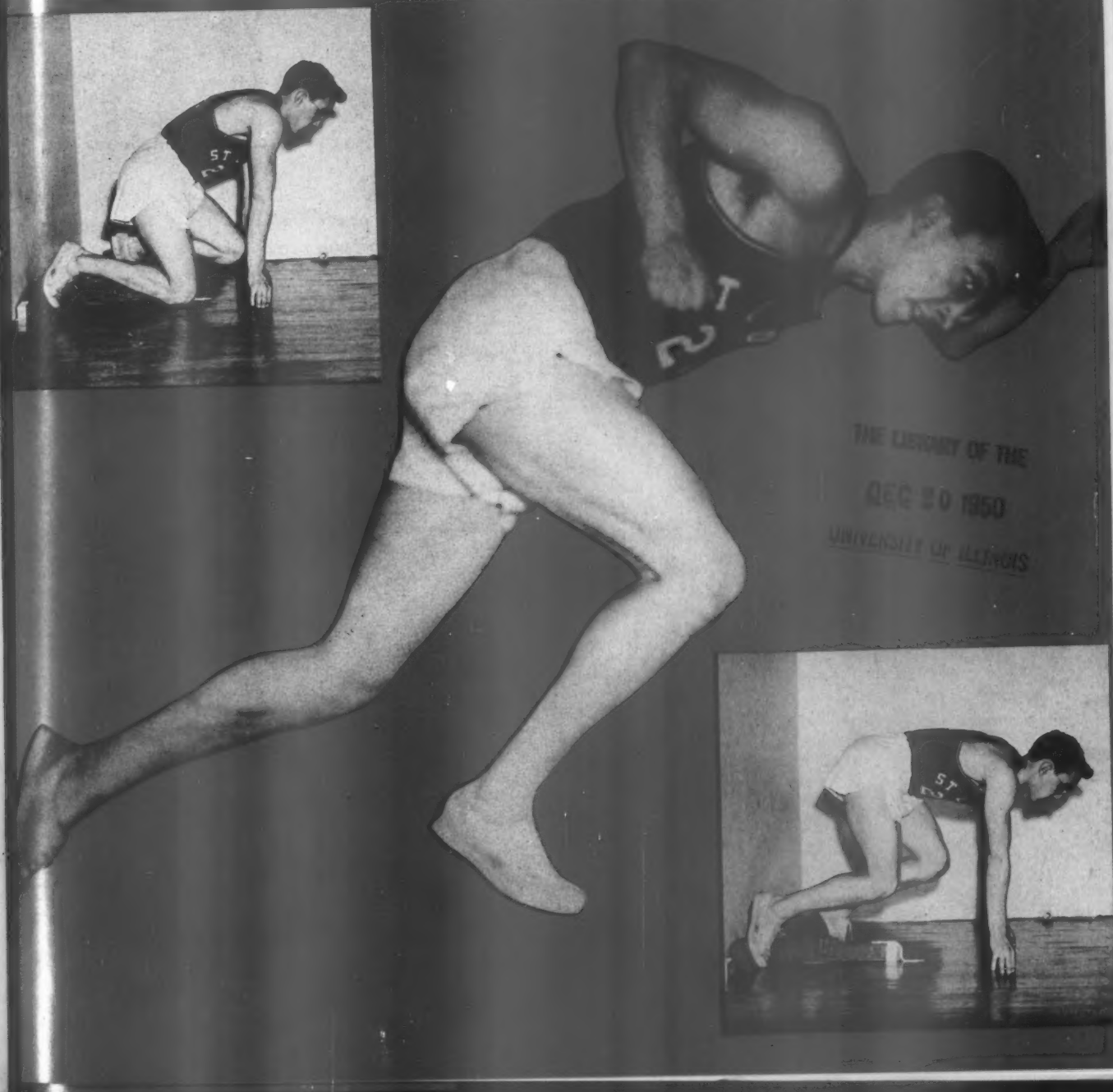

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Volume XXX **Number 6**

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FRONT COVER ILLUSTRATION

Philip Hahn of St. Louis University demonstrates good form for a good start. Track is off to a good start this year and many are predicting 1950 will see more records broken than in any previous year.

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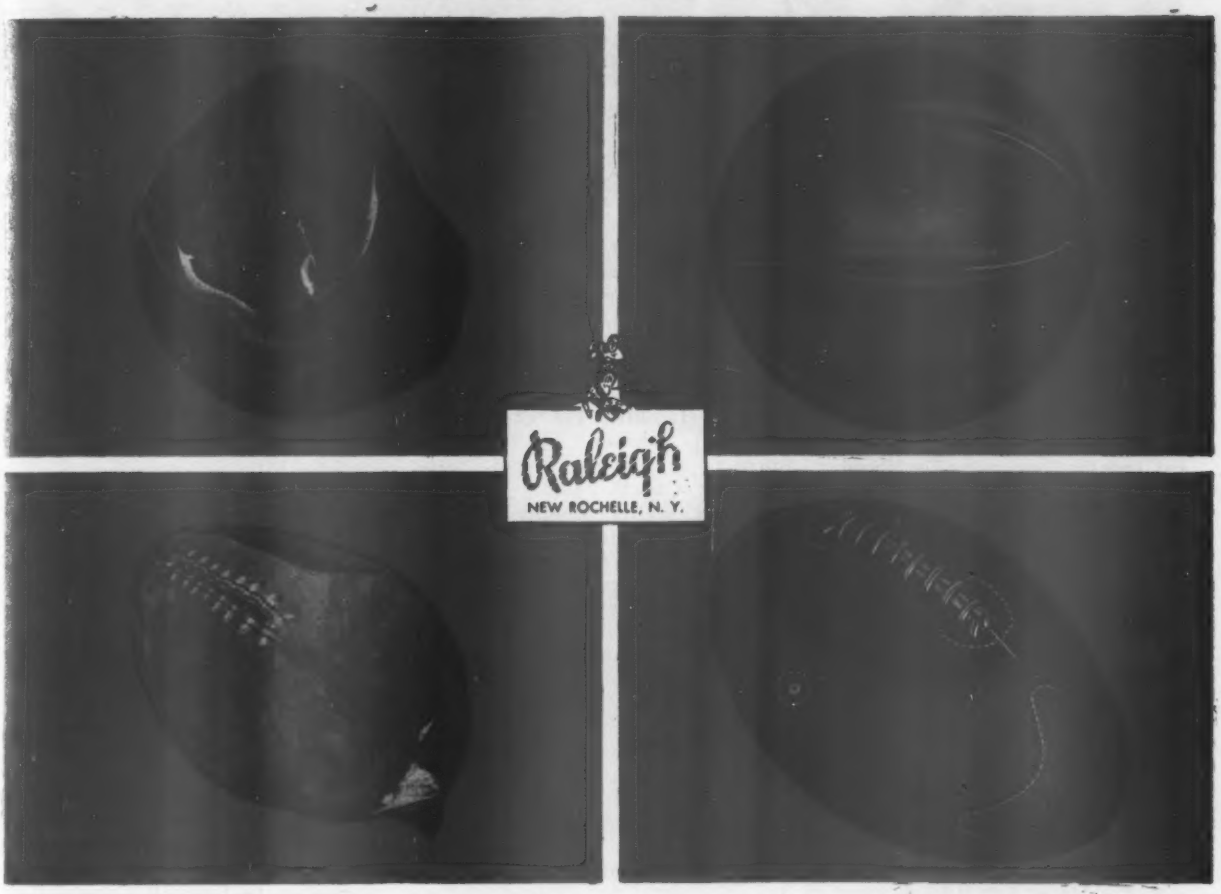

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from here and there

EVERETT DEAN, well-known basketball coach at Stanford, has an imposing list of basketball coaches who played under his tutelage. These are: Ozzie Cowles, Minnesota; Forrest Anderson, Bradley; Branch McCracken, Indiana, and his assistant, Junie Andres; Kenneth Gunning, Wichita; Jay McCreary, De Pauw; Howie Dallmar, Pennsylvania; Joe Hutton, Hamline; Joe Platt,- Carleton; Bill Johnson, Wabash; Bob Burnett, at present Dean's assistant; Al Cassell, Jamestown College; and Walter Sprandel, Albion. Dean graduated from the University of Indiana in 1921 and then took up coaching at Carleton College, Northfield, Minnesota, where his cagers won 49 and lost 3 in his three years there. He next served as basketball and baseball coach at his alma mater from 1924-38, where his teams won three Big Ten titles in basketball and three in baseball. After going to Stanford he directed his team to the Pacific Coast Conference Southern title in his third year. In 1942 his team won the PCC title and the NCAA championship . . . Football is strictly a fall sport in Illinois as recently the Illinois State High School Athletic Association voted to do away with spring football practice . . . Bob Woodruff, former football coach at Baylor, will take over the same job at the University of Florida. Ray "Bear" Wolf, former Florida coach, moves to Tulane as line coach. Hank Crisp, who was line coach at Tulane, returns to Alabama where he spent twenty years on the athletic staff.

* * *

SCOTT Senior High School, Coatesville, Pennsylvania, is having its third annual coaches clinic this year from March 13-16. Among the lecturers to be featured are Frank Leahy, Bernie Bierman, Wes Fesler, Mike Milligan, George James and others. For full information write Harry G. Scott, Director . . . . The following football coaches have recently resigned: Bill Osmanski, Holy Cross; Howard Bliss, North Dakota State; Phil Sarboe, Washington State; Don Fleming, as assistant at the University of Washington, and "Hook" Mylin, New York University . . . . Frank Murray, football coach at Marquette University has resigned and Lisle Blackbourne, line coach, will succeed him. Murray, in 19 seasons at Marquette, won 104, lost 55 and tied 6. Blackbourne was assistant coach at Wisconsin before going to Marquette . . . . The University of Arkansas has named Otis Douglas, assistant coach of the Philadelphia Eagles, as head football coach to succeed John Barnhill who will stay on as athletic director . . . . Wrestling was introduced as an intercollegiate sport at Marquette this winter, under the tutelage of end coach Marvin Bell of the football coaching staff . . . . Washington State College is the only college ever to wear red football shoes. The Cougars wore entire red outfits when they played in the 1930 Rose Bowl game.

* * *

IN the near future the calling of baseball games because of darkness may be decided by light meters instead of umpires. Following a fan's suggestion to Baseball Commissioner A. B. Chandler, General Electric has offered to make available technicians and equipment in demonstrating to baseball magnates the feasibility of setting up uniform light intensity standards . . . . Bernard "Putt" La May, former head coach at Fort Edward, New York, High School, has been named head basketball coach at Saratoga Springs, New York, High School. He will also assist in football and baseball . . . . In the Boston schools, Henry Chiarini, who captured two titles at Boston Tech in hockey, has been moved to East Boston High School; Bill Karrane, former Boston University player, has assumed the hockey duties at Charleston High School; Bill Kilroy, former Boston English hockey coach, will take over at Boston Tech. In basketball, Jerry Beickley will coach at Dorchester High School replacing George Barry, and Tom Moran will take Buckley's place at Brandeis High School.

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Wrestling Injuries

By A. J. "DUKE" WYRE
Trainer, University of Maryland

FEW sports top wrestling in body-building potentialities. There are some who claim it is a muscle-binder, but this is not the case. Under the present rules and carefully planned training regimens, wrestling increases a boy's strength and speeds up his neuromuscular co-ordination without impairing muscle freedom.

As in any sport, the boy is exposed to certain injuries. One of the chief parental objections to wrestling is the so-called "cauliflower" ear.

This objection may be invalidated by making it compulsory for every candidate to wear a helmet both in practice and during competition.

Cauliflower ear is caused by a blow or a rubbing of the external ear, which consists of a layer of cartilage covered by skin. The blow or rubbing action ruptures the blood vessels so that the blood distends into the overlaying skin.

If left untreated the blood coagulates and may harden into gristle. Prompt and proper treatment is demanded. Cold applications—ice, ice bags, or cold towels, with pressure to stop the internal bleeding—are indicated. Following these applications the ear should be taped with adhesive to furnish pressure against a recurrence of bleeding. These cases should be referred to the team doctor.

Mat burns or abrasions are common in wrestling. These are caused by the scuffing or rubbing of the skin against a rough surface. Although mat burns are minor wounds, neglect may cause infection. No matter how trivial the wound appears, it should be given prompt attention.

At Maryland we clean the wound with alcohol and then paint with tincture of methiolate. I use methiolate on all mat burns or abrasions as it can be covered with a sterile dressing without waiting for it to dry, as would be necessary if iodine were applied. One should never cover iodine with a dressing while the iodine is wet.

Ligaments are fibers that hold the bones together. They also are the limiting structures around the joints. When sufficient force is applied to a joint, which tears or stretches the ligaments, we have what is commonly called a sprain. A torn ligament bleeds, with the blood often flowing into the joint or into the soft tissues around the joint.

The treatment calls for cold applications and pressure to restrict to a minimum the swelling or clot caused by the internal bleeding. The less the swelling the more rapid will be the recovery.

Following the cold applications, the injured joint should be padded with cotton and wrapped with an elastic bandage. The patient should be told to rest the joint in an elevated position for 24 hours.

Ligaments do not heal as rapidly as skin or muscle. In this respect they are more like bones. Ligaments heal through scar tissue, which produces a loss of tone. Therefore the joint has to be strapped with a supportive bandage whenever it is used for vigorous exercise.

If the ankle joint has been sprained and the prescribed treatment given, the ankle (if there is no fracture) may be treated with heat the following day; that is, infra-red lamps, whirlpool baths, hot compresses, or diathermy. The ankle should then be strapped with a Gibney or basket weave.

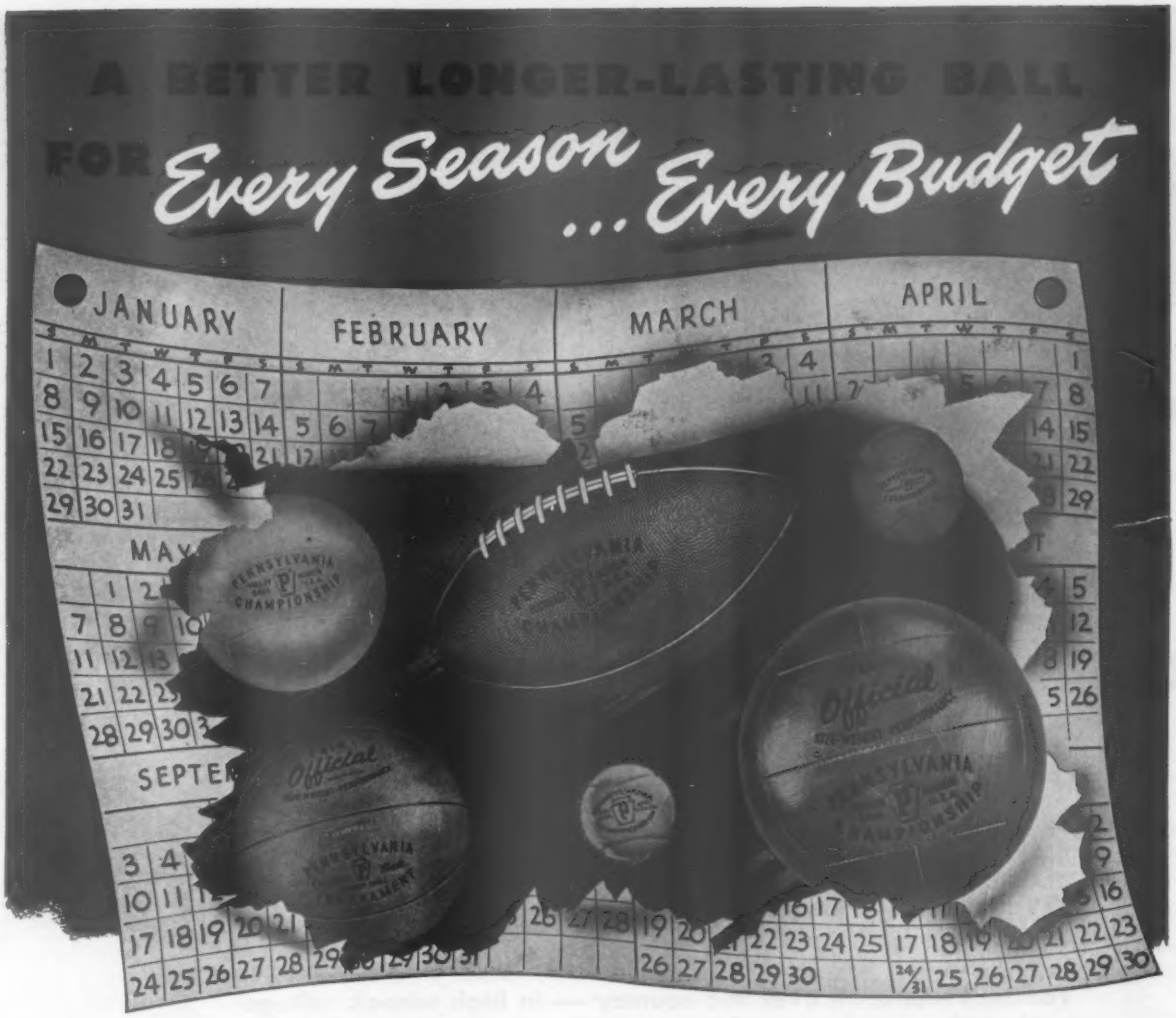
Muscle injuries are produced by blows, violent wrenches, or quick contractions, especially where the athlete is improperly warmed up. Hence, a carefully planned warm-up helps prevent this injury.

The nature of the injury is a tearing or pulling apart of the muscle fibers. Internal bleeding occurs immediately, filling up the gap caused by the tearing action.

The treatment of such injuries

(Continued on page 55)

"DUKE" WYRE received his training at Yale Medical, Rutgers University and William and Mary College. He is also an assistant professor of physical education at Maryland and is president of the Southern Conference Trainers Association. He has lectured at various coaching school clinics throughout the country. An article on "Chest and Shoulder Injuries" by Mr. Wyre appeared in the December, 1948 issue.



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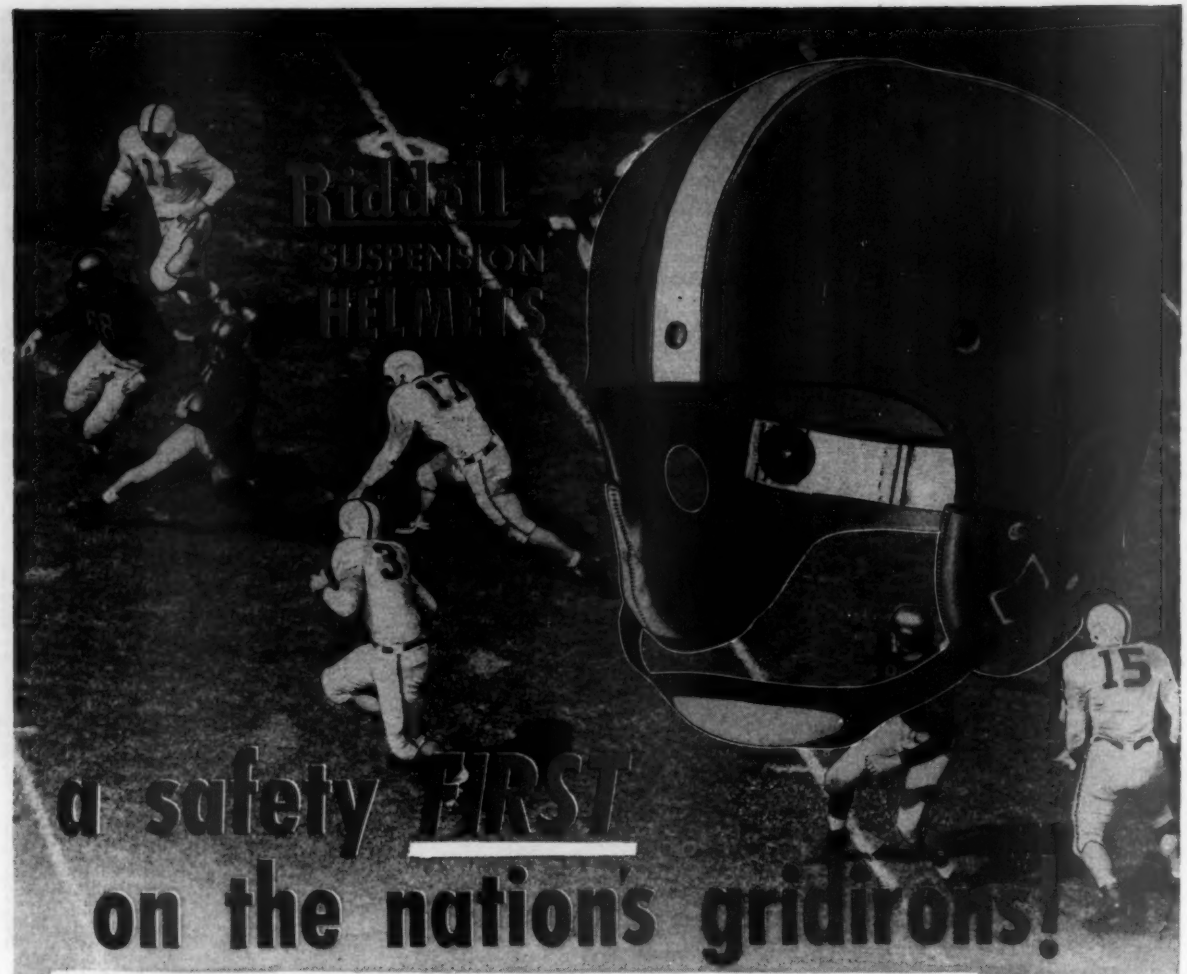

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A Two-Step Plan for the High Jump

By M. E. "BILL" EASTON
Track Coach, University of Kansas

ONE of the main concerns of any novice competitor is to work out a plan of systematic conditioning for the high jump. Questions such as the following are of vital concern to an experienced jumper who wishes to improve his performance:

What type of warm-up to take before a workout or competition?

What calisthenics to use, how many, and how often?

How much running and at what distances?

How much hurdling or weight throwing? if any?

How high to jump in practice?

How many times to jump per practice session? at a given height?

How many practice sessions per week?

These details are very important as high jumping, while not exhausting in the manner of some of the distance runs, nevertheless places severe loads on certain muscle groups which, through overwork, may quickly lose their responsiveness. Thus, to avoid overwork on the jumper's part, most coaches have recommended workouts too light, in my opinion, to do the most good.

The problem, therefore, is to develop a system of workouts which will permit the jumper to do the necessary amount of work without constantly being in danger of overwork and injury.

The performance of any track and field event uses all the muscles of the body while putting the *extreme* load on some specific muscle groups. It is obvious from this fact that any track and field athlete must train with both general and specific sets of exercises to get the full benefit from his workout.

He must engage in activities that tone up and develop his whole body (in strength and co-ordination) while at the same time preparing the muscles that carry the peak load in his event for their unique job.

First, we will consider some of the generalized exercises for high jumpers. These are designed to loosen up, tone up, and condition the whole muscular system. Individually, these exercises are well known. It is our purpose to arrange them into a system that will give a balanced, generalized workout.

(1) Every workout must begin with a warm-up whether the athlete is working out in Alaska or Florida. Our conception of the warm-up is a pattern of activity that prepares the athlete to exert himself fully, at his best, without injury to himself.

Therefore, every warm-up should aim to gradually unlock, loosen, stretch, and exercise the entire system. To do this we start at the joints, where the muscles attach, and work at them. There are only ten joints that we loosen (counting paired joints as one): the neck, shoulders, elbows, wrists, fingers, spinal column, pelvis, knees, ankles and toes.

Here is a series of exercises that thoroughly loosen these joints. It is not the only adequate series as to technique or order, but some equivalent of it is necessary.

a. Clockwise and counterclockwise revolutions of the head.

b. Rotation of the arms in the shoulder sockets and shoulder shrugging.

c. Shaking of the hands, elbows at right angles producing a rotation of the hands at the wrists.

d. Torso twists – athlete standing erect, arms outstretched, legs separated, twist from side to side.

e. Torso revolutions—touching the toes and bending for knee.

f. Deep knee bends – legs apart, back held straight.

g. Standing knee lifts—knees touch chest.

h. Squat splits—full squat with one leg extended to the side. Come to standing position and reverse exercise extending the opposite leg.

i. Hurdle squats – flat on ground

with one leg extended forward, other tucked to side. Bend forward touching chest to knee then extend the opposite leg. This is regular hurdle exercise and is excellent for loosening hips. Keep reversing these two exercises (h and i) exercising each leg.

This sequence or its equivalent should be run through completely at least once before the athlete goes into his workout.

(2) The athlete may now enter a more energetic phase of his workout. Here jogging is recommended which, if performed correctly, completes the unlocking process already begun. The athlete should begin a loose, relaxed jog around the track and continue it until the sweat breaks freely over his whole body. If the sweating has not begun by the time he has gone a quarter to a half mile he is not dressed well enough.

(3) When the sweat appears the athlete should stop and begin more energetic stretching calisthenics. He should keep out of any wind. The exercises detailed before will suffice, with any personal additions the athlete desires—such as high kicking, push-ups, chin-ups, etc. These should be done faster and more vigorously than before. The whole sequence of exercises should be performed; we are still working with the whole system.

(4) Now the athlete should return to the track with a full sweat and do a certain amount of running at various speeds. The distances are not particularly important; the idea is to run and walk alternately, increasing the speed slightly, until the individual is working at almost full effort. Here is a typical schedule:

100 yards—easy jog
30 yards—relaxed walk, shaking loose
100 yards—one-fourth effort run
30 yards—relaxed walk, shaking loose
100 yards—one-half effort run
30 yards—relaxed walk, shaking loose
100 yards—three-fourths effort spring
50 yards—let down jog.

This is the end of the *generalized* workout and the athlete is prepared to begin his *specific* workout which aims to develop his muscular strength and co-ordination for his event. The foregoing sequence of activities should not have taken more than twenty minutes.

It is my firm belief that a high jumper's best training for his event is actual jumping, as often and as much as possible. This is because he has to master a very intricate timing problem which can be mastered only by actual performance and because the particular pattern of muscular strains which must be borne is reproduced in no other exercise except actual jumping. There is great sudden muscular strain involved in lifting 150 to 200 pounds six feet or more. Many painful and incapacitating injuries are possible in legs insufficiently conditioned or warmed up. Even when warm-up and conditioning are complete there is still possibility of serious injury when extreme efforts are attempted.

Here we have reached the serious problem in high jump conditioning. We desire to have the jumper leap as often as possible to learn his timing and build his muscles, but we want to avoid as much as possible the chance of damage to these muscles. Every coach and jumper have had to meet this problem some way. I feel the solutions used to date have not gotten the most out of the jumper's jumping workout. Here are the three usual solutions to the problem with criticisms of their methods:

(1) The athlete jumps only at low heights in practice. *Criticisms*: a. The timing in jumping at low heights is different than that at higher heights. b. The jumper gets in sloppy habits in not having to exert himself. c. He doesn't get enough work.

(2) The athlete jumps less often, but at good heights. *Criticsims*: a. He doesn't get enough work. b. He doesn't get enough timing training. c. He has a greater chance of injury because of a and b.

(3) The athlete jumps at extreme heights, often. *Criticisms*: a. Probability of injury and overwork (discussed above). A jumper also has difficulty producing the nervous excitement necessary to give the precise co-ordination needed.

Surely there must be some method of achieving the desired workout for the high jumper. Shot putters work at full effort with a lighter shot and hurdlers can work with lower barriers at high speed. Is there no corresponding technique for high jumpers?

Working with Tom Scofield the past two years has brought to light the following work pattern. Full credit should go to Tom, a fine high-jump student, for working out this sequence, and to his former coaches, Mike Carpenter and Ray Kanehl. This technique appears to give all the benefits found in frequent jumping at extreme heights without many of the drawbacks. We have dubbed this the "two-step high jump."

The athlete stands with his feet together two strides from the bar, leans forward, takes the two strides and leaps over the bar which is placed at a height he can easily clear.

As a specific example, let us take a Western-roll jumper who approaches the bar from the left side and jumps off his left foot. Here is his sequence of actions: 1. He stands feet together, two strides from the bar. 2. He leans forward and steps off with his right foot. 3. His next step advances the left foot to the take-off point and he leaps from this spot over the bar landing (in the Western roll) on this same left foot.

Several questions immediately arise concerning this technique:

1. *Why two, and not three or four steps—any less number than the jumper usually takes?*

The answer to this question is very important and has several parts. First, it has been found that in *any more* than two steps, a jumper can get as much speed as he can with any length run. One of the main purposes of the technique is to cut down the amount of speed at the take-off point. This for two reasons: we want to cut down the chance of injury, and we want to teach the jumper to depend less on his run for his spring.

Second, the most crucial part of the whole jumping action lies in the last two strides of the take-off run. The rest of the run is merely to gain a certain velocity. The real mechanical problems of the jump as to weight control, etc., all lie in the last two steps. The "two-step" technique allows the jumper to study the action of these last two steps and work easily to find the secrets of lift.

Third, the "two-step" technique forces the jumper to utilize every ounce of power and spring he can get from proper manipulation of his arms and legs. In short, he is forced

(Continued on page 57)

***BILL EASTON** formerly coached at Drake University where he had three consecutive cross-country team champions in 1944, '45 and '46. In the three years since he took over at Kansas, his two-mile teams have swept three Big Seven championships. In 1948 the Jayhawks finished seventh in the NCAA cross country. Last year they moved up to sixth. His two-mile teams have now won 12 straight dual meets. Bill is also the capable director of the Kansas Relays.*

Keys To Successful Pitching

By J. M. BARRY

Baseball Coach, University of Southern California

EXCELLENT pitching has always been the key to any successful baseball team, but with the advent of the "rabbit ball" in recent years, never has this phase of the game been more stressed. Major league clubs are spending fabulous sums in their search for efficient throwing talent.

Certain basic fundamentals plus mental and physical requisites are necessary for any pitcher to be successful regardless of the class of ball in which he is participating. The improvement of the pitcher is measured by his ability to master these fundamentals.

Physically, a pitcher must be strong, possess a good arm and be blessed with extraordinary endurance. The better his fast ball, the more chance he has to become a star. He can learn the secrets of the curve, the change of pace and control with hours of concentrated practice, but only nature can give him that blazing fast one.

The mental make-up of the successful pitcher necessitates the attributes of unusually steady nerves, courage, intelligence and the realization that to become a great pitcher, years of hard work and disappointments may be ahead of him.

Having disposed of the basic physical and mental requirements for a successful pitcher rather hurriedly, we now turn to the actual fundamentals of the art of pitching. Other things being equal, the man with the above-mentioned qualifications and possessing the best control will be the most effective. Control is more important than speed or curves and his career as a player will, in most cases, be of longer duration as he will throw far fewer balls during a game. By control is meant the ability to pitch the ball wanted at the time wanted, after having decided where the ball should be pitched. A pitcher may not have a good curve or a good fast ball, but there are very few who cannot gain control by sufficient practice. Every toss of the ball, in pepper games, warming up and in hitting practice should be thrown to a spot. Acquire the habit of throwing each ball to a certain object.

There are certain basic requirements in attempting to master the art of control. A young pitcher should adopt one method of delivery and use no other until control is achieved. Overhand, or nearly so, is the best style to adopt if it is not an unnatural delivery, because the pitcher will be able to develop a better curve. It is best not to attempt to throw it at full speed when practicing for control. Early in the spring the pitcher should throw as many over the plate as possible. In batting practice the same holds true but always by throwing at a definite spot down the middle. As control becomes better, the plate will become bigger.

It is now time to pitch inside and outside, high and low, with one's target being the catcher's knees and shoulders respectively. When these pitches are mastered one should avoid pitching down the middle. It is a good plan to have a batter to pitch to when warming up. Early in the spring the pitcher should not pitch too long. Whenever the ball seems heavy or it is taking a little more effort to throw, it's time to stop. The pitcher should always wear a woolen undershirt, always avoid liniments and not allow the trainer to rub his arm too much unless it is really sore. In cold weather it is a good plan to apply vaseline to the arm to keep the warmth in.

In warming up the pitcher should start slowly and increase the speed gradually, using the fast ball until the arm is good and warm. When starting on the curve ball, he should start slowly even if he is good and loose. When thoroughly loose, he should toss four or five good fast balls and curves and then quit. He should not pitch his game warming up. More pitchers are taken out because they are not thoroughly warm than for any other reason. In cold weather ten to fifteen minutes should be used to warm up. In hot weather, ten minutes is usually sufficient.

It is necessary for the pitcher to be in better condition physically than any other man on the team. A pitcher's legs, when in shape, are his finest friends. All is lost if they are not in shape. Pepper games, chasing fly balls, fungo hitting, sprints and many daily laps around the park are necessary. When the legs are in shape, the pitcher must remember that he must keep them in shape. It is my contention that lack of all-around pitching condition, especially the thrower's legs, is the reason for mediocre performances.

The pitcher must realize that he is the fifth infielder. He must be given lots of practice fielding bunts and ground balls hit directly at him or to either side. He must then work on making proper and accurate throws. He must break toward first and be ready to cover that base on all balls hit to his left. On all balls dumped near the plate he must follow the catcher's orders as to who shall field the ball and to what base it should be thrown. He must work in unity with the first and third basemen on all bunted balls. He must learn to back up plays in the correct manner. He should never attempt to field any high fly balls in the infield. In short, he must be keenly alert to field ground balls, bunts, and cover first, third or home as the occasion demands.

One of the greatest mistakes made by young pitchers is their failure to spend hours working from the "man on" position. So many pitchers lose a great deal of their effectiveness in reference to control and "stuff" when the wind-up is taken away from them. Coaches should work their pitchers steadily throughout the season in an

(Continued on page 52)

SAM BARRY began his coaching career at Knox College in Illinois where he was mentor of football, basketball and track. In 1922 he became basketball and baseball coach at the Univeristy of Iowa where his cage team tied for the Big Ten crown his first year. In 1929 he went to Southern California as head basketball and baseball coach and assistant football coach. His basketball teams won the PCC championship in 1930, '35, and '40. His baseball teams won the California Intercollegiate Baseball Association championship in 1930, '31, '32, '36, '46 and '49 and tied for it in 1935, '39 and '47. The 1948 team won the national NCAA title.

Speed In Track and Field Events

By J. KENNETH DOHERTY

Track Coach, University of Pennsylvania

IN APRIL, 1948, the track and field world was astounded to hear that Charles Fonville, University of Michigan junior, had broken Jack Torrance's shot put record of 57′ 1″ by almost a foot. Torrance was an exceptional giant of 6′ 5″, weighing 260 pounds. Only a man of similar proportions would be likely to break his record. Only one other man, Blozis, 6′ 6″, 240 pounds, had ever put over 56′. Yet Fonville, 20 years of age, 6′ 1″, and a mere 194 pounds had achieved 58′ ⅜″.

In August of the same year the story of another startling achievement was flashed over the sports' wires. Harrison Dillard, the great American hurdler, had just won the Olympic 100-meter dash in the excellent time of :10.3. Everyone had been disappointed when he hit a hurdle in the final American trials and failed to place in his favorite event. Everyone was delighted that he managed to squeeze into a berth on the boat by qualifying in the dash. "Of course he won't place in the Olympic final. After all, he is a hurdler." But he beat both the favorites, Patton and Ewell, equaled the Olympic record and became World's Champion in the sprints.

These two performances point up in unusual fashion the great importance of the element of speed in modern track and field athletics. Fonville was great as a shot putter primarily through speed – speed in moving across the 7-foot circle, speed in combining this momentum with a concentration of explosive power. Dillard was great as a hurdler, not through perfection of form or co-ordination, but primarily through his speed of action over and between the hurdles. Of course speed is nothing new. Obviously it has been coached and used from the very beginning. Mike Murphy, for example exphasized it time and time again in the 1913 edition of his book *Track and Field Athletics.* There does seem, however, to have evolved a different as well as an increased emphasis upon its importance. About twenty years ago, Brutus Hamilton made a much publicized prediction of ultimate human performances in track and field events. Most of these predictions have now been surpassed. Many reasons can be given for this—better tracks and equipment, harder work, better form, etc., but the most all-inclusive reason has to do with the utilization of greater momentum throughout all phases of the action.

"Form should come first." For many years, and even today, speed of execution has been considered an element which, although necessary to *best* performance, is still secondary to good form, balance, position, and co-ordination. "Take it easy, you lose your form when you put or throw for distance in practice, cut down your run. Watch that left foot. Slow down that discus turn." Such have been the insistent warnings of coaches, even after years of practice by the athlete. Whatever makes balance, position, and co-ordination more difficult; whatever forces a compromise, creating a less powerful position at the front of the circle or at the take-off, is not right and should be eliminated or at least avoided until the later stages of perfection of form.

It is true that a few outstanding coaches and writers on track and field events have stressed the importance of momentum and speed of execution. "Dink" Templeton of Stanford, sweated out a full hour of hard practice with his shot-putter Anderson on the day in 1940 before Anderson won the National Collegiate title. For a full hour we listened to "Dink" yell, cajole and demand, "Speed, speed, more speed; get across the circle." Anderson did just that, and he won with a new personal record. In Dean Cromwell's excellent book, *Championship Techniques in Track and Field Athletics,* about every tenth sentence of the discussions on field events is related in some way with the idea of speed. When the Finnish Olympic coach, Armas Valste, was asked what he would suggest to improve American javelin throwing, he curtly stated, "Get rid of your grass runways." His point, of course, was that a fast run is essential, and that with great speed, spikes could only be effective on hard dirt or clay. In the December, 1949, issue of the *Amateur Athlete,* Mikio Oda, Japanese Olympic coach, writes of a new emphasis on the hop, step and jump, "When the war ended I thought up a way of revising the hop and the step. This revision consisted of injecting more speed into the three parts of the jump . . . the objective is to extend the over-all distance of the jump through speed rather than by the rhythm in the jump." But such emphases on speed are rare and are reserved for champions.

On the contrary, the two part thesis of this article is that (1) *momentum is not only necessary to ultimate record performances but is also an essential part of good form and cannot be separated from it, and* (2) *momentum in the execution of a field event is best taught early in the learning process.* This second assertion will be supported in part II of this article to appear in a later issue. Arguments for the first will be advanced at once.

KEN DOHERTY graduated from Wayne University in 1927. He was national decathlon champion in 1928 and '29. He was assistant track coach at Princeton in 1929-30, and served in the same capacity at the University of Michigan from 1930-39. From 1940-48 he was head track coach at Michigan during which time his teams took seven out of a possible 18 conference championships. He went to Penn last year.

Momentum Is Essential

Momentum as here stated refers to the early or "preliminary" movements in each event. In the jump events it implies the speed which the athlete is able to acquire just prior to the take-off. The necessity for greater momentum is obvious in the broad jump. In the pole vault, it is usually considered important but still secondary to smoothness and relaxation in the run. In the high jump, coaches, almost invariably, place momentum at a minimum level. Cromwell states, "Most high jumpers run to far and too fast and their energies in the leap are thus dissipated in moving forward instead of being properly used in going upward."

In the weight events, only the jave-

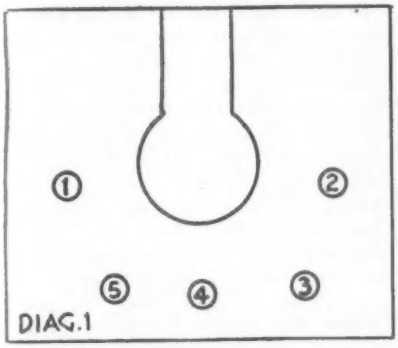
(Continued on page 55)

Offense Against Set and Zone Defenses

By W. H. DeSHAZO

Basketball Coach, Humboldt, Tennessee, High School

FOR years most coaches have agreed that the best attack against either the set or zone defense is not to meet it head on. Most teams are much tougher if they are allowed to retreat and take their defensive positions. This being the case, the fast break has come into use all over the country and has added greatly to the interest of the game. It has a spectator appeal that is unsurpassed, and in addition to its spectator appeal, it has done much to rid the game of set and zone defenses. I have no quarrel with either of these defenses, other than I feel that both types make for a slower



DIAG. 1

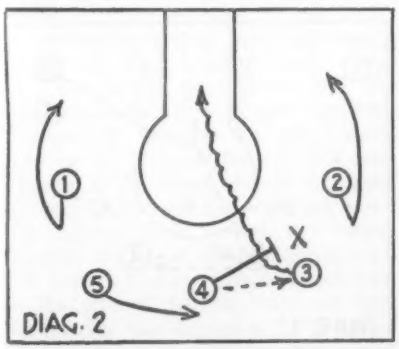
game with lower scoring. I realize that both types require a great amount of coaching and work on the part of the players.

During the past season we have used the fast break from every position on the court. We also used a pressing man-to-man defense and shifted only when absolutely necessary. The effect of this "hustle-bustle" basketball may best be pointed out by saying that we won 44 consecutive games during the past season — including five tournaments. We averaged 61.4 points per game and held our opponents to an average of 31.2 points. We feel that the fast break was largely responsible for this high scoring as we met several good zone and set defense teams through the season. When we say we don't meet set or zone defense teams, we merely mean we get down the court before the defense forms.

There are times, however, when the defense is formed. When this situation arises one must have a set plan of attack. All of us have seen a strong, high-scoring team completely "handcuffed" by a supposedly inferior ball team playing a possession game and relying on a floating man-to-man or zone for its defense. A little planning or foresight on the part of the coach could have prevented this. We spend a large part of our time working against the various defenses and, as the set defense is met most frequently, we spend most of our time working on this.

Our system is one that is growing in popularity throughout our section, namely, the double pivot. Our pivot players, as a rule, are our tallest and slowest players. They are stationed about two yards from the sidelines and about one yard down court toward the opponents' goal from our free-throw line. We put our fast men out on the court for ball-handling and cutting. A set-up of this sort leaves the center open and allows us to use many inside screens and guard-around plays. Our set-up position is shown in Diagram 1.

MR. DE SHAZO graduated from Lambuth College in Jackson, Tennessee. He has been coaching for eight years. Last year his basketball team won 44 consecutive games and the county, district, divisional, regional and state tournaments.

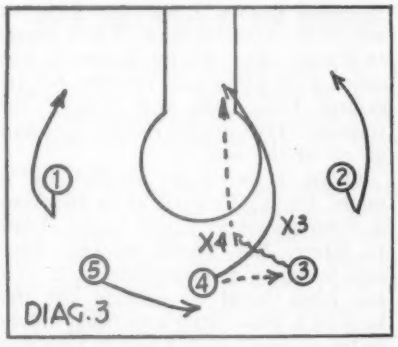


DIAG. 2

The man in the center of the out line is our offensive quarterback when we oppose a man-to-man. It is his duty to play the opposing defense as one would an accordion. If the defense contracts he must use the guard around plays to make it expand. When it expands he must use quick thrusts down the center to cause it to contract.

Our basic play is shown in Diagram 2. Four passes to 3 and follows his pass. Three fakes to his right and cuts off the moving screen 4 has provided and dribbles all the way. One fakes out and reverses in order to rebound. Two fakes out and reverses in order to rebound. Five moves out for defensive purposes.

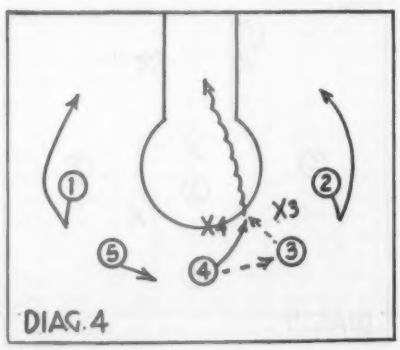
It is obvious that a play this simple cannot go many times in a game and so we use the variation shown in Diagram 3 when our opponents shift on 4 and 3. Four passes to 3 and moves over to screen. Three dribbles but finds X4 has shifted. He immediately goes into the air and throws to 4 who has moved into goal. One, 2, and 5 complete the same movement as in Diagram 2.



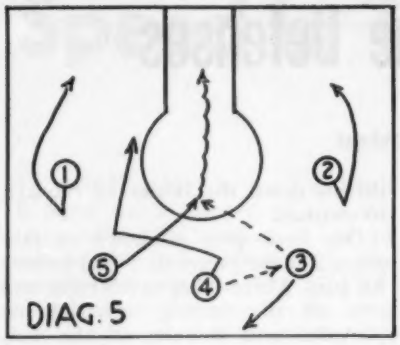
DIAG. 3

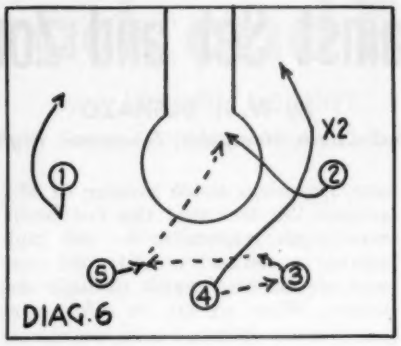
Occasionally we find X4 and X3 dropping off their opponents in order not to be screened. When this happens we either shoot or take action as shown in Diagram 4.

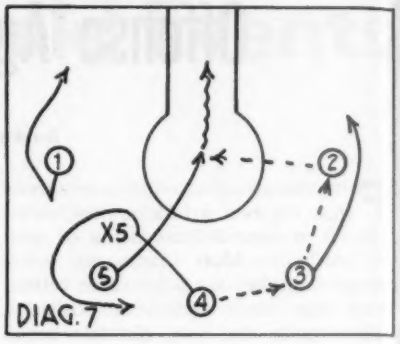
In this fake screen, 4 passes to 3 and follows his pass as if to screen as he has done in Diagrams 2 and 3. When halfway between his position



DIAG. 4







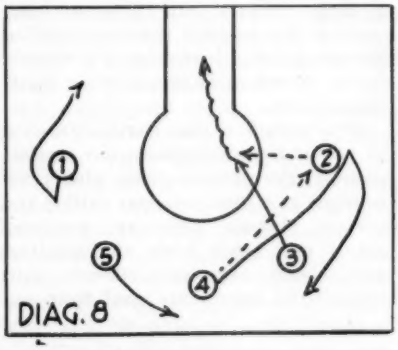
and 3, he peels off and starts fast for the goal. Three returns his pass. One, 2, and 5 follow the same pattern as in Diagram 2.

Four does not always follow his pass. At times he will move in an opposite direction as shown in Diagram 5. Four passes to 3 and starts to follow pass. Instead he reverses his direction toward 5, who times his cut and scissors off his back. Three passes to 5 and comes out for defensive balance. Two fakes and reverses for rebound. One fakes and reverses for rebound. Five should receive pass and go all of the way.

Often 4 moves in to pick off a guard for his forward as in Diagram 6. Four passes to 3 and moves down to screen X2. Three dribbles once and passes to 5. Five passes to 2 who has been freed by cutting off the back of 4. Four, after screening, moves in for rebound with 1 and 2. Five and 3 maintain defensive balance.

As I have said before, our 4 man is our offensive quarterback. He initiates all plays and gives the signal for them. In the foregoing diagrams the fact that he threw the ball and moved showed that all plays were "A" plays; which is the name by which we designate strikes down the center.

To signal our "B" series of plays our quarterback throws the ball and does not move. The pass always goes to 3 or 5 and it tells them that their pass, as a rule, must go to 1 or 2. Three or 5 usually pass to 1 or 2 and so on one of the many guard-around variations which most coaches use. Because of the widespread use of the guard arounds I will not attempt to diagram any of them. I do want to show one of our plays, which we consider very strong, because it focuses attention on the ball on one side of the court while we free a man on the other to do the shooting. This is



shown in Diagram 7. Four passes to 3 and stands. Three passes to 2 and goes on a guard around. Four waits until the pass goes to 2. He then moves across on X5. Five slashes off 4 for the goal and takes pass from 2. Two takes pass from 3 and fakes a return before giving ball to 5. One rebounds while 4 goes on defense.

Our "C" series is largely a group of scissor plays. They are started by a pass from 4 to 1 or 2. The one we like best is shown in Diagram 8. Four passes to 2 and follows pass. Three cuts off 4 and receives ball from 2. One, 2, and 3 all go in for rebound. Five and 4 remain out for defensive purposes.

Our attack against the zone is to fast-break and beat it back, if possible. When this fails we go to a set attack. We use a one-three-one offense against the two-one-two zone and the two-three zone. We try to move the ball rapidly three or four times before we attempt a shot. Our set-up against the two-one-two is shown in Diagram 9. Four is our only defensive man. He should be the best floor man and passer. Three is our best pivot man and ball-handler. Two and five are our best shots. They play one step out of reach of all defensive men with their feet set and ready to shoot. When they receive the ball they take a quick step with their left foot and shoot a one hander.

Player 1 is usually our tallest man and best rebounder. He uses a figure-eight under the goal and tries to stay on the side opposite the ball in order to break out to meet it. We have no particular plays with this set-up as we find that by moving the ball rapidly we can get all the shots we want. One series of passes is shown in Diagram 10 which we have found successful in getting shots. Four passes the ball to 3 who relays it to 5. Five passes back to 4 who passes again to

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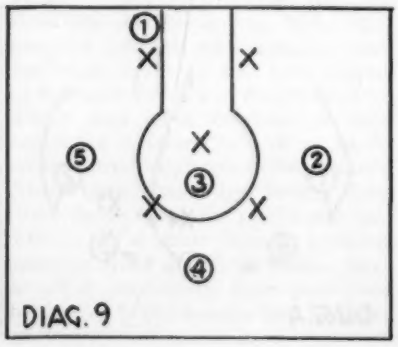

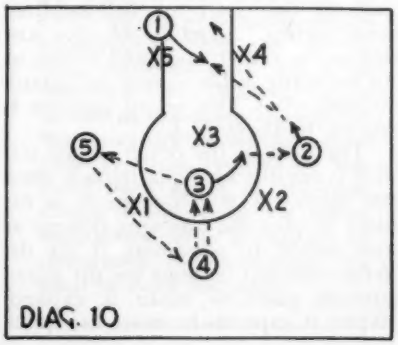

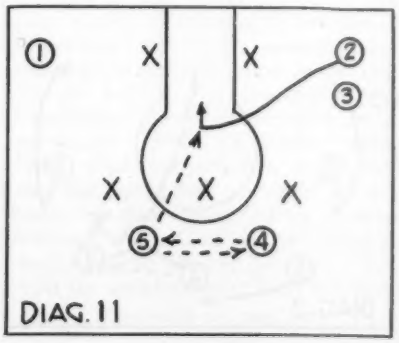

Keeping Tabs On Hitters

By H. S. DE GROAT

Director of Town & School Physical Education, Newtown, Connecticut

A COACH should become baseball-minded each spring, especially if he has been busy with other sports or duties that have kept his mind in other channels. Present-day coaches, who entered the coaching field since the first World War, have been given increasing advantages in preparing their teams. Prior to that time the coaches had few books or coaching magazines to help them as we do now. Just what television will do as it becomes increasingly common in our players' home will be interesting to note.

Research In Baseball

Research in baseball does not seem to be as common as in some other sports. Perhaps it is because it has been longer established and the rules have long been subjected to very few changes. This article is in the realm of research. The fine co-coperation of Amherst's Coach, Paul Eckley, his manager, L. Harrison Thayer, and Coach Bob Coombs of Williams is thoroughly appreciated.

The study is interesting because one team had a successful season while the other was not as fortunate. The latter, however, won in the first meeting of the two teams as often happens when close rivals meet. Past performances very often mean nothing in these contests. Team poise often overcomes the stronger team if emotion causes tenseness.

The .300 Batter

In a 1937 study the author found that almost all .300 hitters can be expected to produce a hit, a base on balls, hit into an error or be hit by a pitched ball at least half the time when men are on base. If just under a .300 average, they may still have a record of 17 to 17 or a similar ratio. As the average goes above .300, the tendency is for the successes to go well above the failures. In this study, Bowen of Amherst batted .379; was successful 24 times, failed 14 times for a .631 average with men on bases. He classes with the major league players. He had a .467 average as lead-off hitter, getting five hits and two walks out of fifteen times as first batter. He was second as rally starter (getting on after one or two were out); second as run scorer (17); top batter .379 average; drove out 17 singles first place); led in put-outs (136); was second in drawing walks (14) and third in runs batted in (11).

This study gives a new slant on the former one and brings out other interesting information that should interest some baseball coaches who like "inside" baseball.

HAROLD S. DeGROAT served as a specialist in physical education during the war. He organized the army swimming program at the Officers Training School, Miami Beach, Florida, in 1942 and the conditioning program for the AAF at Atlantic City the same year. He is in his 36th year in physical education and has two sons also in coaching.

How Data Was Gathered

Complete reports of each game were sent to the author. The reports were in the form of the "Baseball Coach's Data Sheet" which takes information direct from the score book but spreads it out further. Besides the usual hits, runs, assists, put outs, etc. it tells the type of hits, (i.e., singles, doubles, triples, homers) number of walks, individual strike-outs, stolen, bases, results of lead-off hitting, hitting with men on bases, etc. The author summarized this data after every two or three games and gave the coach of each team the up-to-minute status of each of his players. The pitcher's record was summarized on the back of each sheet.

Gathering Data Is Not Difficult

Any assistant manager can quickly be instructed in the method of drawing off the data from the score book. Progressive summaries are just cases of addition.

Coach Bob Coombs was able to rearrange his batting order by the latter part of the season and you can note the Williams' team batting average surged upward at the season's end to come within one ten-thousandths of one point of Amherst's team average

Table No. 1

Amherst College — Summary Through 16th Game

		McNeish	Crowe	Bowen	Rosendale	Jordan	Genovese	McGrath	Gold	Murphy	Wohrlin	Bergin	Dunbar	Miller	Barry	Damon
At Bat		62	42	58	53	52	44	61	40	28	19	3	32	22	4	21
Runs Scored		12	10	17	18	10	9	10	7	1	1	2	2	6	0	5
Hits	1B	16	9	17	9	11	11	9	10	6	3	1	4	5	0	3
	2B	1	0	3	2	1	0	6	2	1	1	0	0	1	0	1
	3B	1	0	1	1	0	0	2	0	0	0	0	0	1	0	0
	HR	1	0	1	3	0	1	0	0	0	0	0	0	0	0	0
Put Outs		40	16	36	26	18	10	35	54	15	6	0	3	8	7	8
Assists		44	4	4	36	0	17	5	7	15	9	3	15	0	0	9
Errors		8	2	2	6	0	2	3	1	1	2	1	1	0	0	2
Sacrifice Hits		2	1	1	1	1	0	1	0	1	1	0	1	1	0	1
Walked		7	7	14	18	12	7	8	6	4	0	3	0	3	1	3
Struck Out		12	13	9	9	2	4	16	7	4	2	0	1	6	2	5
Runs Batted In		13	0	11	3	8	12	12	7	7	4	0	0	4	0	2
Stolen Bases		5	3	4	7	3	1	5	4	0	0	0	1	2	0	0
Double Plays	Made	5	0	8	4	0	1	1	2	0	0	0	3	0	0	0
	Hit Into	2	1	0	2	3	1	1	0	0	0	0	0	0	0	0
Lead-off Hitter		26	12	15	11	16	10	10	10	3	2	3	6	3	0	5
With Men On Bases	Hits	8	2	14	7	6	9	12	7	5	2	1	0	5	0	2
	BB (W)	4	2	9	11	1	5	5	3	2	0	1	0	2	1	1
	SH	2	0	0	1	1	0	1	0	1	1	0	1	1	0	1
	HE	0	0	1	4	3	0	1	2	0	0	0	1	0	0	1
	HP	0	0	0	1	2	0	2	0	0	1	0	0	0	0	0
Failed With Men On		18	18	14	18	24	20	20	14	15	12	2	9	9	2	6
Batting Average		.279	.214	.379	.283	.231	.273	.279	.300	.257	.210	.333	.125	.318	.000	.190

PH — Pinch Hitting; H — Hit; W — Walk; HE — Hit into error; HP — Hit with pitched ball

Table No. 2

INDIVIDUAL BATTING RECORD

HITTER	PLAYER	INNINGS	AB	R	H	1B	2B	3B	HR	RBI	SB	PC
AMHERST												
No. 1	McNeish	135⅓	68	12	19	16	1	1	1	13	5	.279
No. 2	Crowe	87	42	10	9	9	0	0	0	0	3	.214
No. 3	Bowen	135	58	17	22	17	3	1	1	11	4	.379
No. 4	Rosendale	135⅓	53	18	15	9	2	1	3	3	7	.283
No. 5	Jordan	124⅓	52	10	12	11	1	0	0	8	3	.231
No. 6	Genovese	98⅓	44	9	12	11	0	0	1	12	1	.273
No. 7	McGrath	143	61	10	17	9	6	2	0	12	5	.279
No. 8	Gold	94⅓	40	7	12	10	2	0	0	7	4	.300
No. 9	Murphy	63	28	1	7	6	1	0	0	7	0	.257
	Dunbar	47	32	2	4	4	0	0	0	0	1	.125
	Barry	15	4	0	0	0	0	0	0	0	0	.000
	Bergin	22	3	2	1	1	0	0	0	0	0	.333
	Woherlin	40	19	1	4	3	1	0	0	4	0	.210
	Miller	48⅓	22	6	7	5	1	1	0	4	2	.318
	Damon	49	21	5	4	3	1	0	0	2	0	.190
WILLIAMS												
No. 1	Lesage	115	48	7	9	0	0	0	0	1	1	.189
No. 2	Ray Mason	90	35	7	9	0	0	0	0	2	1	.245
No. 3	Healy	114	51	7	12	9	2	1	0	2	1	.236
No. 4	Owen	146	60	11	21	12	3	3	3	21	2	.350
No. 5	Delisser	115	47	5	15	12	3	0	0	1	1	.319
No. 6	Lynch	83	32	4	6	5	1	0	0	1	0	.187
No. 7	Fisher	99	46	4	12	7	1	2	2	7	0	.261
No. 8	Zeller	137	54	4	16	15	1	0	0	10	3	.296
No. 9	Ditmar	55	23	1	5	5	0	0	0	1	0	.217
	Cool	44⅓	22	3	9	6	1	2	0	0	1	.409
	Waugh	65	29	4	4	4	0	0	0	2	2	.138
	Bush	31⅓	14	2	2	1	1	0	0	0	0	.143
	Sheehy	31	13	1	4	3	0	1	0	4	0	.308

.2813 to .2812 (See Table 4).

Football coaches know the yardage made by each play, yards gained by players, etc. Basketball coaches chart the number and type of shots taken by their players. Why should the baseball coach be less inquisitive about his sport? Why should he depend upon memory or guess work in making up his batting order or judging the ability or values of his substitutes?

The baseball coach who knows what his batters are doing with men on base, who is dependable, who usually strikes out, and who are good lead-off hitters and rally starters — those who get on after others have failed — this coach has something definite to talk about as he meets his players and directs his team.

Bobby Coombs stated as his season was closing, "It is amazing how the records show the failures with men on base. I just couldn't keep track of that before except when some player failed when it meant the ball game. I intend to keep it up next year for my own use. It really helps."

Presenting the New 1949 Study

After arranging the data of this new 1949 study in tables covering various aspects, I shall present those "Tables" along with significant points related to each in the following order:

Table No. 1 — Baseball coach's data sheet — Amherst College Summary through sixteenth game.

Table No. 2 — Individual batting record — National League Style of summary.

Table No. 3 — Comparison of player's batting averages, Amherst vs. Williams — A study of the progress of batting averages.

Table No. 4 — Charting the team batting averages.

Table No. 5 — Lead-off hitting records.

Table No. 6 — Dependability of hitting or success at bat with men on base.

Table No. 7 — Potential rally starters — first on base after one or two are out.

Table 1 is a summary of Amherst's sixteen games and forms part of the basis of this study. The Williams summary is not shown here.

Significant deductions from the data presented here will be made under tables that follow.

In Table 2 the individual batting records of both teams are presented in the style of the National League Summary. They are arranged in the order of the final or most used batting order.

Tables four and five give the significant points relative to this table.

In Tables 3 and 4 we have a graphic picture of the progress of individual and team batting averages. The ten players of each team are arranged in their batting order.

Significant points:

1. Amherst started off with seven batters carrying a batting average of .300 or better; dropped to four at the end of the seventh game (11 days later); held five through the twelfth (two weeks); and dropped to three at the season's end, three weeks later.

2. Williams started off with five .300 or better hitters; dropped to one inside of one week; then picked up to three and held it for the rest of the season (six weeks).

3. Table No. 3 shows the usual trend in batting as the batters lead the pitchers in the early season games and then the pitchers gradually come into their own as the season progresses and force the high averages downward.

4. Table No. 4 shows graphically how the team batting averages of the two teams — one successful — one with a poor season — compared during the season. It is interesting to

Table No. 3

COMPARISON OF BATTING AVERAGES

		A	W	A	W	A	W	A	W	A	W
Game		3	4	7	6	10	10	12	13	16	16
	No. 1	.222	.100	.240	.231	.275	.167	.360	.214	.279	.189
B	No. 2	e.000	1.000	.333	.250	.277	.273	.285	.233	.214	.245
A	Sub No. 2	a.461	b.600	.333	.272	.300	.285	.333	.285	.318	.409
T	No. 3	.400	.090	.454	.235	.411	.276	.405	.238	.379	.236
T	No. 4	.333	.230	.280	.238	.290	.316	.231	.347	.283	.350
E	No. 5	.363	.454	.237	.333	.200	.322	.250	.300	.231	.319
R	No. 6	.333	.133	.250	.190	.300	.182	.321	.192	.273	.190
S	No. 7	.307	.333	.275	.214	.325	.174	.298	.257	.279	.261
	No. 8	1.000	.285	.600	.263	.408	.281	.333	.256	.300	.296
	No. 9	c.167	d.333	.214	.291	.235	.308	.250	.235	.257	.217

Code — A — Amherst; W — Williams
a — No. 2 sub played 48⅓ innings while No. 2 played 87 innings
b — No. 2 sub played 44⅓ innings while No. 2 played 90 innings
c — pitcher pitched 63 innings; won 5 games
d — pitcher pitched 55 innings; won 3 games
e — batted only once in first three games

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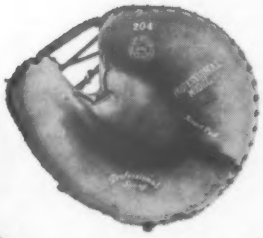

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note that Williams ended the season within one ten-thousandth of one point of the Amherst team average.

Stabilizing the Batting Order

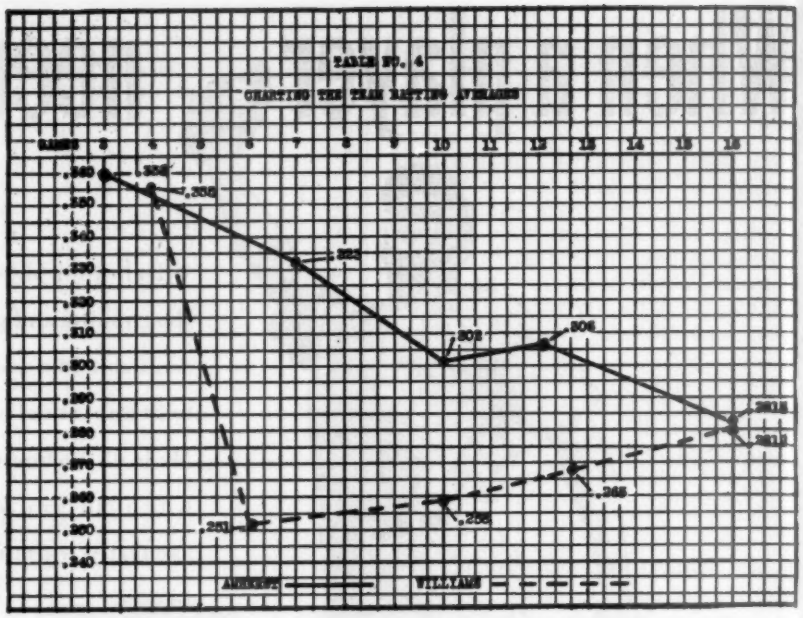
Three of Amherst's first game lineup were replaced after six games and the regular batting order was stable from there on. The record at that time was 6 won, 2 lost. Further details regarding these changes appear in the discussion of the next two tables.

Williams' batting order was fairly well settled by the eighth game. The lead-off hitter beat out two others for the position while the seventh batting position was given to Fisher for the last eight games. In the last three games a .409 batter replaced a .245 hitter. At the thirteenth game these two batters had averages of .285 and .233 respectively.

Table No. 5 gives the record of each batter acting as lead-off hitter in the various innings during the season.

Significant points:

1. McNeish of Amherst held the number one batting position for the whole season except for the opening game when he batted fifth. He served very well in this capacity with a .384 average as lead-off hitter, getting six hits, three walks and hitting into one error for a total of ten successes out of twenty-six times up. In Tables No. 6 and 7 it may be seen that he rated fourth in dependability with a record of 14 successes to 18 failures with men on base for a .437 average and as a potential rally starter he tied for third place on his team with a record of three hits and one base on balls.



2. Lesage of Williams finally clinched his position as lead-off batter for the final half of the season. His .611 average as number one hitter tops everything. He replaced Bush .600 and Waugh .364.

3. Again we can point to the fact that the *number one batter comes up as number one man nearly twice as many times as any other batter in the line-up* and it is very important to pick a good man for this spot in the batting order. McNeish came up 26 times to Jordan's 16, next nearest for Amherst. Ratio: 26–16.

In looking at the Williams' lead-off record we find a total of 34 times for the three lead-off hitters — Lesage, Bush and Waugh. Healy's 15 was the next nearest. Ratio: 34–15.

Further discussion appears under the next tables.

In Tables 6 and 7 we find much of the meat of this study. Here we have the assembling of much of the important totals from the other tables. In Table 6 we can study the individual averages in four phases. In order of appearance they are: 1. Average success with men on base; 2. Season batting averages; 3. Average as lead-off hitter; 4. Rank as rally starter.

Table 7 gives the detail of what the batters were able to do when they came up to bat after one or two were out, thus being potential rally starters. Many games have been won after two were out. Many inexperienced pitchers become victims of these batters or the batters in the lower end of the batting order thinking that they are not too dangerous or that it is time to let up slightly.

Significant points:

1. We can see that Coaches Eckley of Amherst and Coombs of Williams made good choices in their number one hitters. We have listed McNeish's record except for the fact that he led the team in runs batted in with 13. Here we can see that even though Crowe and Jordan held slightly higher lead-off hitting averages, McNeish

Table No. 5

LEAD-OFF HITTING

NO.	PLAYER	TIMES UP	HOW SUCCESSFUL	TOTAL	AVE.	GAMES ACTED AS NO. 1 BATTER
AMHERST						
No. 1	McNeish	26	6H, 3W, 1HE	10	.384	15
No. 5	Jordan	16	1H, 5W, 1HE	7	.437	0
No. 3	Bowen	15	5H, 2W	7	.467	1
No. 2	Crowe	12	3H, 3W	6	.500	0
No. 4	Rosendale	11	5H, 3W	8	.727	0
No. 6	Genovese	10	2H, 1W	3	.300	0
No. 7	McGrath	10	1H, 1W, 1HE	3	.300	0
No. 8	Gold	10	3H, 1HE	4	.400	0
	Miller	3	1W	1	.333	0
WILLIAMS						
No. 1	Lesage	18	7H, 4W	11	.611	7
No. 3	Healy	15	2W, 1HE	3	.200	0
No. 4	Owen	14	3H, 2W, HPB	6	.429	0
No. 8	Zeller	14	3H, HE	4	.285	0
No. 5	Delisser	12	2H, 3W	5	.415	0
No. 7	Fisher	11	2H	2	.181	0
No. 1	Waugh	11	2H, 2W	4	.364	6
No. 6	Lynch	10	2H, HE, HPB	4	.400	1
No. 1	Bush	5	2W, 1H	3	.600	4
No. 2	Ray Mason	7	3H, 1W	4	.571	0
No. 6	Ralph Mason	6	2W	2	.333	0
No. 2	Cool	2	1H	1	.500	0

H — hits; W — walks; HE — hit into error

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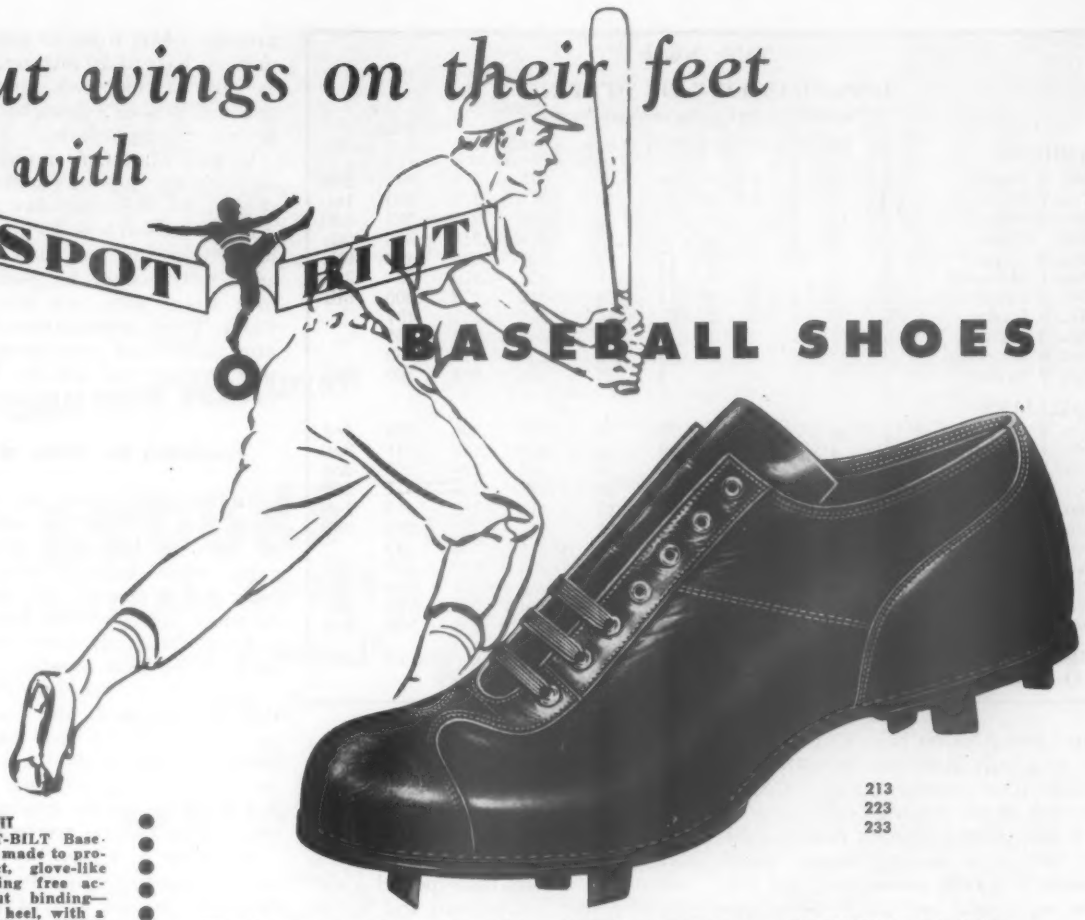

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Table No. 6

DEPENDABILITY OF HITTING

(Success at bat with men on base)

AMHERST	Hits	BB	SH	HE	HPB	TOT.	Times Failed	Average Success	Bat. Ave.	LO Ave.	RS
No. 3 Bowen	14	9	0	1	0	24	14	.631	.379	.467	2nd
No. 7 McGrath	12	5	1	1	2	21	20	.512	.279	.300	1st
No. 4 Rosendale	7	11	1	4	1	17	18	.486	.283	.727	2nd
Sub Miller	5	2	1	0	0	8	9	.470	.318	.333	5th
No. 8 Gold	7	3	0	2	0	12	14	.461	.300	.400	6th
No. 1 McNeish	8	4	2	0	0	14	18	.437	.279	.384	3rd
No. 6 Genovese	9	5	0	0	0	14	20	.412	.273	.300	6th
No. 5 Jordan	6	1	1	3	2	13	24	.351	.231	.437	.....
No. 9 Murphy	5	2	1	0	0	8	15	.348	.257	.333	.....
No. 8 Wohrlin	2	0	1	0	1	4	12	.250	.210	.500	.....
No. 2 Crowe	2	2	0	0	0	4	18	.181	.214	.500	2nd
WILLIAMS											
No. 4 Owen	11	6	0	2	0	19	20	.487	.350	.429	3rd
No. 1 Lesage	1	5	1	2	0	9	11	.450	.189	.611	2nd
No. 8 Zeller	10	3	1	1	0	15	20	.428	.296	.285	3rd
No. 2 Ray Mason	4	5	2	0	0	11	15	.423	.245	.571	5th
No. 5 Delisser	6	4	2	0	0	12	17	.414	.319	.415	1st
No. 3 Healy	8	2	0	1	0	11	21	.344	.236	.200	2nd
No. 6 Ralph Mason	7	1	0	1	0	9	19	.321	.190	.333	.....
No. 6 Lynch	3	1	1	0	1	6	15	.285	.187	.400	5th
No. 9 Ditmar	3	0	1	0	0	4	10	.285	.217	.000	4th
No. 7 Fisher	6	0	0	0	0	6	19	.240	.261	.181	4th
No. 2, 7 Cool	1	0	0	0	0	1	8	.111	.409	.500	3rd

BB—walk; SH—sacrifice; HE—hit into error; HPB—hit by pitched ball; LO—lead-off average; RS—rally starter

fitted the position best. Crowe's ability as a rally starter evidentally kept Miller from replacing him as number two in the batting order.

2. Lesage of Williams, besides leading all as a lead-off hitter, rated second as a rally starter with one hit; five walks and one HPB. Note also that both these batters were not heavy hitter types. See Table No. 2.

3. Though Bowen (.467) and Rosendale (.727) both had better lead-off hitting averages than McNeish (.384), they fitted better as the number 3 and 4 batters in the Amherst line-up. Rosendale led in home runs (3), third in doubles, first in base on balls (18), also in stolen bases (7) and runs scored (18). Bowen led the batting averages with .379, number of singles (17), second in doubles (3), second in runs scored (17) and walks (14) and third in runs batted in (11).

4. McGrath, second high with men on base (.512) fitted in well at seventh position. He topped the rally starters for his team with 4 hits, 3 walks and one hit into error. Even though he was the strike-out king (16) he led in doubles (6) and triples (2), rated in runs batted in (12), fourth in walks (8) and in runs scored (10). He was the iron man, playing 143 innings.

Having a player of McGrath's ability in seventh place in the line-up means much. Looking back to Table No. 3 one can see that Amherst's seventh hitter held a favorable batting average above the Williams' representative. Also note that the tail-end hitters, sixth through ninth at Amherst, held higher averages throughout the season. This undoubtedly was one of the factors that spelled a successful season for Amherst and failure for Williams.

5. Owen of Williams was a good choice as clean-up batter according to his record. Cool held a higher average (.409) but the data shows that he was unsuccessful under pressure although very good as a rally starter. Owen led his teammates in total hits (21), runs scored (11) doubles (3), triples (3), dependable hitting average (.487) from 19 successes with men on base to 20 failures, and third as rally starter with four hits and two walks after others had failed to get on the base paths.

6. Ray Mason, as number two in the line-up proved to be a good choice; his dependability average of .517 was second high for his team. His lead-off hitting was good (.571) and as a rally starter he was successful four times with two hits and two walks. These accomplishments placed him above Cool even though his batting average was .245 for 90 innings to Cool's .409 for 44½ innings.

Predicting the Value of Hitters

In the 1937 study the facts indicated that .300 hitters were inclined to have a balanced success-failure ratio when batting with men on base and if above .300 there might be more successes than failures.

From this study those facts do not seem to be well founded. By assembling and rearranging the present data we can study the problem and perhaps arrive at a surer basis for predicting the value of hitters according to their batting averages. In Table No. 8 the batters are arranged according to their batting averages.

1. Under 1, lead-off averages, Zeller's .285 is the only one below .300. However, he was successful six times as a rally starter which is very similar to leading off.

2. Failures when there were no runners on base are not listed but they are reflected in the batting average.

3. By totaling the successes (with men on) and times successful as a rally starter (with none on) and

(Continued on page 54)

Table No. 7

POTENTIAL RALLY STARTERS

(Getting on base after one or two are out)

Batter No.	NAME	TIMES SUCCESSFUL	HOW SUCCESSFUL
AMHERST			
No. 7	McGrath	8	4H, 3W, 1HE
No. 2	Crowe	7	4H, 3W
No. 4	Rosendale	7	2H, 4W, 1HE
No. 3	Bowen	7	1H, 4W, 2HE
No. 1	McNeish	4	3H, 1W
No. 5	Jordan	4	2H, 2W
WILLIAMS			
No. 5	Delisser	10	9H, 1W
No. 1	Lesage	7	1H, 5W, 1HPB
No. 3	Healy	7	4H, 2W, 1HPB
No. 2	Cool	6	6H
No. 4	Owen	6	4H, 2W
No. 8	Zeller	6	2H, 2W, 2HE
No. 7	Fisher	5	3H, 1W, 1HE
No. 9	Ditmar	5	3H, 2W

H — hit; W — walk; HE — hit into error

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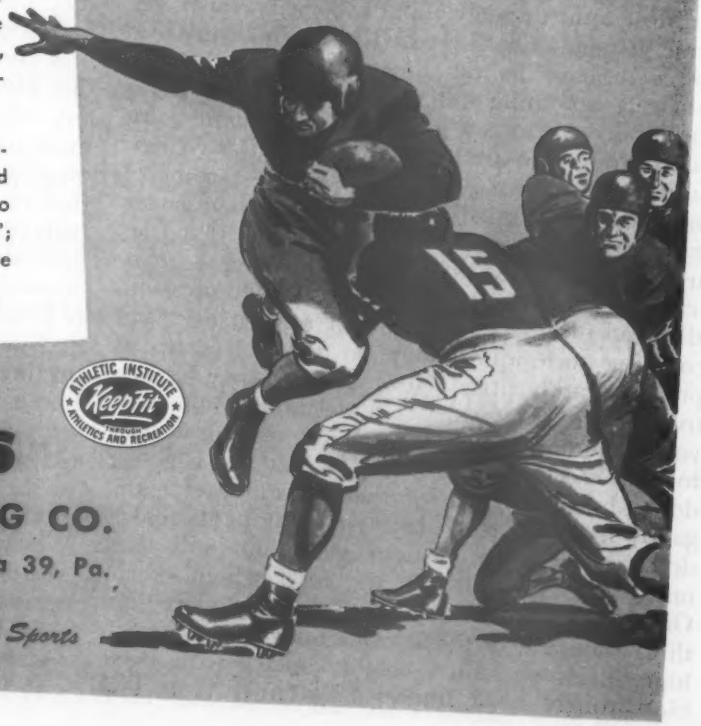

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Coaches—Let's Not Squawk

THE following editorial was writen by Mr. H. M. Emswiler, Commissioner of the Ohio High School Athletic Association for the "Ohio High School Athlete." The editorial presents some of the clearest thinking on a most important subject that we have seen. Because of this, and at a point of being repetitious for our 1,100 Ohio readers, we are reproducing it for the benefit of our readers in other states.

"Most unfortunately about every city, town, village, hamlet, and cross-road's high school in Ohio seems to have its rabid devotees who are sure "there is something rotten in Denmark" whenever the local team loses a game. Quite generally, this rabid group who are loquacious as well as vociferous, could neither coach nor officiate a game of football or basketball between two kindergarten teams and do it right, but they assume that they are infallible. So—since they remember a smattering of the game as played years ago and occasionally read newspaper accounts of rule changes and coaching techniques, they set themselves up as profound authorities. However, they may be able to deal amateur athletics a devastating blow in your community and they will yell to high heaven for the coach's scalp. There is not the slightest doubt but that some of them would prefer the gaudy show of professional wrestling at its lowest depths to a clean amateur game but still they make life miserable for the high school coach. Ohio's high school coaches, and there are more than three thousand of them, come out of college with high ideals and then comes contact with these blood-thirsty head hunters. Certainly it is Un-American, at least as we understood America a few years back.

Coaches, you can do more to set America straight on matters of fair play and honest-to-goodness sportsmanship than any other group on earth. A few of you have attempted to save your own hides by passing the buck on to the game officials by your conduct and remarks at and after the game and thereby, attempt to divert the criticism of the emotional mal-contents from you to the officials. That is a rather cheap trick, isn't it? Without a doubt you know of the tirades this fall against some of the officials, by two or three rather prominent college coaches whose teams did not do as well as expected in certain games. Newspaper quotes are, "I'd rather have that referee on my team than any of my players," "I can't understand the officiating," "I thought I had seen the worst," and so forth. This helps neither the game nor the school. Rather generally, Ohio's high school coaches take their disappointments in stride. In our high schools, let us practice as well as preach sportsmanship and eliminate those undesirable attitudes so characteristic of some professional games.

Athletic Equipment Production

THE country is becoming more and more sports conscious with each succeeding year. Lest there be any doubt in anyone's mind we hasten to point out the statistics compiled by the Bureau of the Census, Department of Commerce and so ably analyzed in the current issue of "The Sporting Goods Dealer."

A comparison of 1939 and 1947 figures reveal that basketball as a sport is growing faster than any other sport based on the amount of equipment produced. The production of basketballs increased by 114 per cent. The increase of production of footballs was about 42 per cent. For softballs, the increase was almost 30 per cent, for baseballs almost 22 per cent. Golf club production increased by over a million clubs.

Tennis was the only notable sport to show a decline, having declined some 48.2 per cent. The decline in tennis racket production may be attributed to the poor weather conditions during the spring of 1947 which undoubtedly affected participation in the game. It might possibly be due to the fact that tennis has not received the promotion found in some other sports.

Few, if any, industries are as dependent upon weather as is the sporting goods industry. The unseasonably mild weather this winter has permitted little ice skating or skiing. The serious water shortage in and around New York City if

(continued on page 63)

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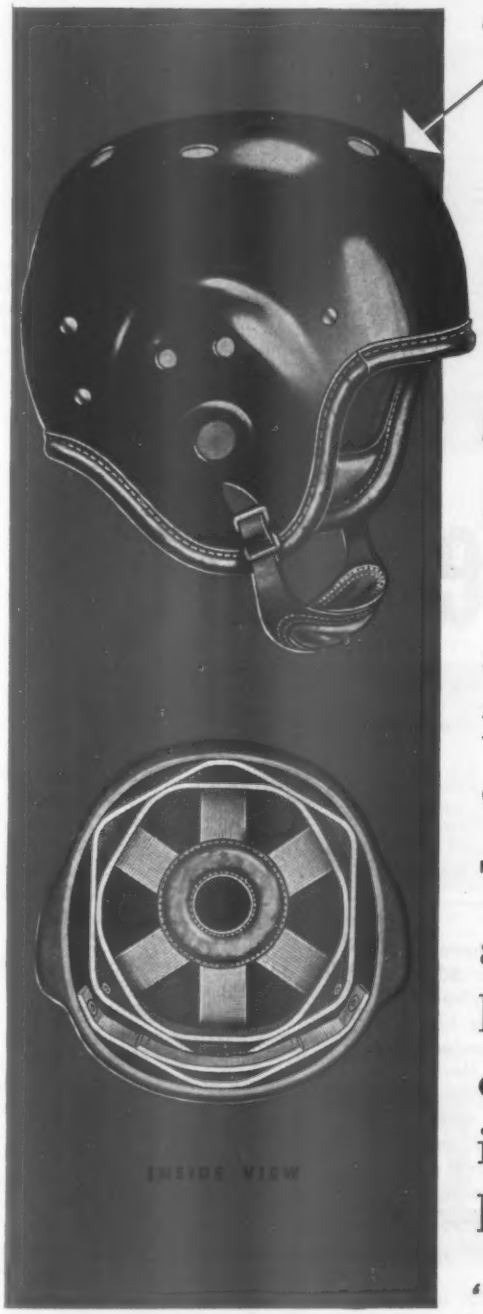

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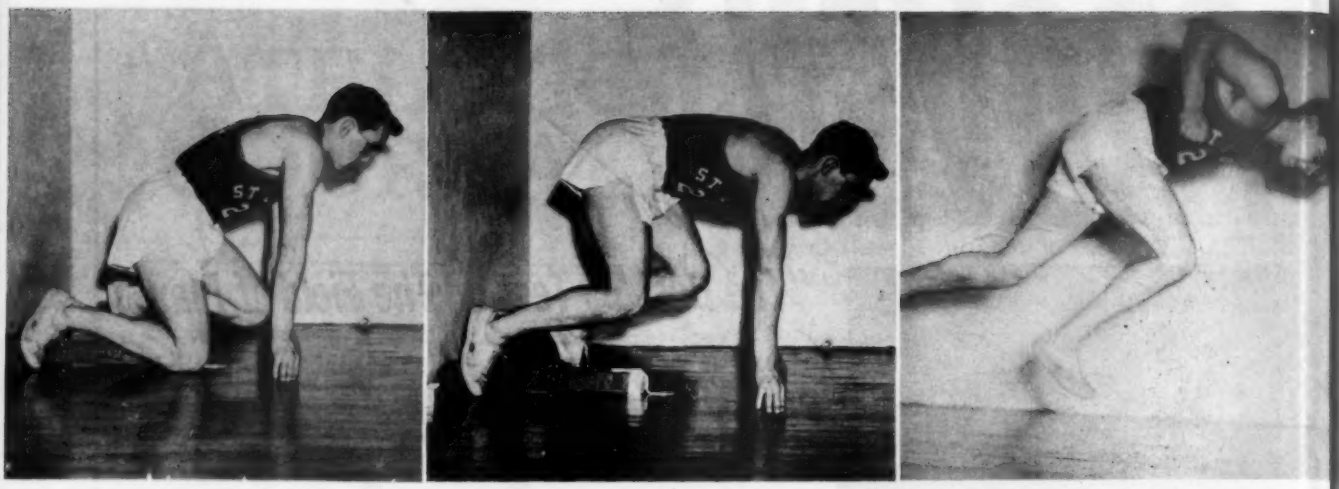

The illustration at the left correctly illustrates the to-your-marks position. The thumb and fingers form a tripod bringing the palm of the hand well off the floor. The elbows have a semi-locked appearance. The shoulder, elbow and thumb present a continuous line almost perpendicular to the floor. The toes and ball of the foot are pigeon-toed into the blocks to assume the most powerful position of thrust. The legs are at right angles to the starting line and point slightly inward. In the center illustration (the "get set" position) the shoulders and arms remain practically unchanged while the stern is raised to a point slightly higher than the shoulders, crouching the leg muscles at an angle of maximum leverage. The head is not moved up to look at the track because this unnatural position humps the neck and upper-back muscles causing strain and discomfort. Instead the sprinter looks vacantly downward concentrating on the report of the starter's gun. The last illustration shows how the left arm is thrown forward vigorously while the right is jerked back along the ribs. The left leg drives the body ahead. A short, rapid right step prevents the athlete from falling.

Teaching the Start

By CHARLES E. BEAUDRY

Assistant Track Coach, St. Louis University

MY seventeen years of competition in the sprints was one of perennial experimentation in the technique of starting, the physics and physiology of which is most interesting. I would like to summarize my findings in suggesting a method of teaching novices the correct technique of coming out of the blocks.

The first point to be stressed is relaxation, for rapidity of muscular contraction is dependent upon the state of relaxation of the muscles. One readily observes the loss of co-ordination and the tremendous amount of energy required to rotate a tightly clenched fist. Undue tension in the starting blocks delays the transmission of nerve impulses, inhibits muscular flow and materially retards the lightning reaction of getting away which is so important in successful sprinting.

It is interesting to note that the 100-yard dash is usually run over three hundred and two feet, for the left foot is customarily placed about 24 inches behind the point of departure.

The problem of where to place the feet in relation to the starting line is of prime importance. The simple rule of setting the left block back one-third of the athlete's height and the right block one-half, works out in the majority of cases. In other words, a six-foot sprinter's left block would be set two feet from the line, with the right back a distance of three feet. A five-foot dash man's holes would be dug twenty and thirty inches respectively. Fortunately, to recall the ancient Greek rule of thumb in sculpturing, the human foot is normally one-sixth of the body's length. Therefore, one need only step off two feet for the left starting block and three for the right. Diagram 1 illustrates this principle.

CHARLES E. BEAUDRY shares the National Canadian 50-yard indoor record with Harrison Dillard and others. During his sprinting career he defeated such track greats as Herb Thompson, Barney Ewell, Eulace Peacock, Ed Duggar and Grover Klemmer. His best official time in the 100-yard dash is 9.4 made at the Quebec International Marathon Games in 1947.

Once the starting blocks are set they should be securely tightened and tested for possible give. In getting into the blocks, the hands are placed at the starting line at shoulder-distance separation. Slow-motion pictures indicate that this is the most efficient position, for if the arms are placed in a V or inverted-V position, time is consumed after the firing of the gun in reassuming a shoulder-perpendicular position, so necessary for efficient sprinting. The thumb and fingers form a tripod bringing

(Continued on page 53)

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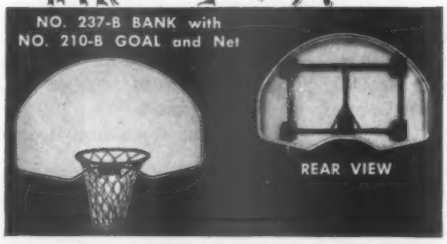

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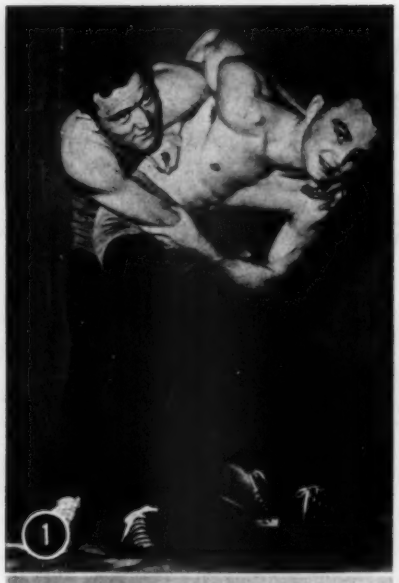
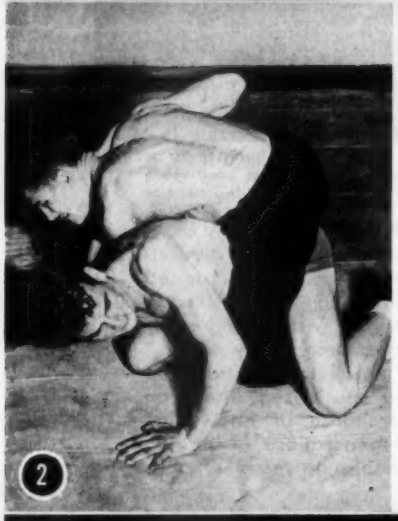




Wrestling for Mavericks

By ART GRIFFITH

Wrestling Coach, Oklahoma A & M College

TO coin a second-hand phrase, no sport has ever done so much, so quickly, for so few as has wrestling. This is especially true of junior and senor high school boys whose temperament, work habits, and physiques are in the formative stage.

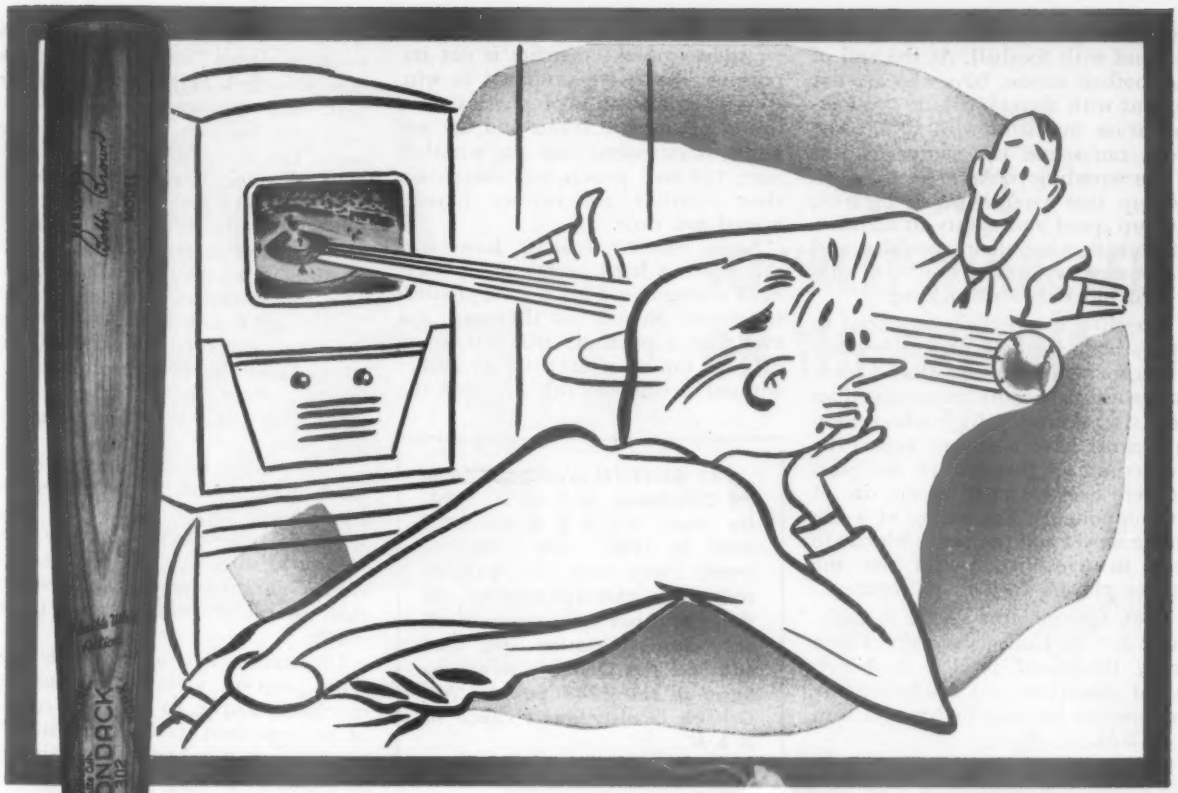
By "so much" I mean first, wrestling develops the entire body as much as racial and ancestral limitations will permit. Second, it provides an incentive for clean living. Third, it requires systematic and scientific preparation. Fourth, it takes the drudgery out of workouts. The execution of the variety of maneuvers becomes more fascinating as the participants become more proficient. Fifth, it develops co-operation and teamwork. Every wrestler knows he can go only as far as his workout partners can help him. For that reason he does not bang or cuff them around. Workouts then become enjoyable. Friendliness is always conducive to co-operation. Sixth, it develops the all-important desire to win in a fair fight.

By "so quickly" we mean that a boy can be almost completely made over in a shorter time by wrestling than by any other method ever used. Dissipation ceases immediately. The strenuous workout takes care of that. Bad tempers are soon under control because nobody wants to work out with a sorehead.

It is a pity that all of these desirable transformations are bestowed on "so few". There are several reasons why so few boys are exposed to wrestling, but none of the reasons are really good. Parents rate the largest share of the blame for not allowing their boys to wrestle. Fathers, at their present age, do not want to wrestle. The very thought of huffing and puffing through a strenuous match makes them shudder. They can't understand why their sons wrestle the knees out of their trousers after school. But boys are like puppies and kittens – they love to tussle. Most fathers have seen some professional wrestling and, not knowing the difference between professional and amateur wrestling, are afraid their sons might get hurt. Mothers seldom want their boys to participate in any contact sport. They have no way of knowing about the all-important and oftentimes life-long lessons a boy learns in a gruelling contest.

Administrators are also to blame because they seldom provide even a fraction of the facilities needed for a good wrestling program. They say they can't make any money off of it. Insufficient or undesirable workout space further reduces the number of boys who would wrestle if they had an opportunity.

Wrestling does not interfere with



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any other sport. In fact, it goes hand in hand with football. At the end of the football season, boys who are not content with merely making the football team but who wish to become great, can spend the winter months in the wrestling room. Here they can develop that vital sense of balance, pick up speed and agility in addition to strengthening their shoulder and neck muscles which result in improved blocking and tackling.

Wrestling is especially beneficial to high school football players because it teaches them that speed and maneuverability are more important than mere size. Countless high school football games have been lost before the first scrimmage just because the players were overwhelmed by the size of their opponents. Knowledge of a few simple moves and positions, which are basic in wrestling, would put the smaller players back in the contest.

Toby Greene, line coach at Oklahoma A. & M. College, says that Lloyd Arms, 195-pound N. C. A. A. heavyweight champion, was fundamentally the soundest lineman he has ever seen at A. & M.

Dr. Orion Stuteville, former wrestling coach at Northwestern, once told me that Jack Riley was a mediocre football player until he took up wrestling. Riley won the N.C.A.A. heavyweight championship and was a member of the U. S. Olympic Team. When Riley returned to football it was "murder."

It is difficult to understand why football coaches do not insist that their players wrestle all winter instead of softening up and slowing down, as this makes a spring practice a dreaded chore. Unless a coach has tried it he has no idea how much fun it is to find a group of well-conditioned, eager, fighting men reporting for spring practice instead of the customary, sighing, sweating, softies.

Occasionally one finds a football coach who thinks that wrestling will muscle-bind and slow up a boy. Perhaps that was true fifty years ago when wrestling went hand in hand with blacksmithing. The best way to find out is to take the football boys into the wrestling room some rainy day; pair them up with wrestlers just to see what will happen. Matches like this have been arranged before and the results have been as follows: The football players collapse with fatigue after three or four minutes of fast wrestling. (Usually they have been easily manhandled by the wrestlers.)

Ask the football players about the match, and they invariably say, "He was too *fast* for me". The fact that the wrestlers won the matches is not important; they were supposed to win. But the comparison of physical condition of the two teams and the unanimous statement that the wrestlers were too fast, proves our contention that wrestlers are neither muscle-bound nor slow.

Some football coaches have said that after a hard season the players need a long rest. This is a very foolish statement! Nobody on this earth has ever had a physique that would remain in top or competitive condition without strenuous workouts. Stop the workouts, and down goes the condition of the player. A football player works during September, October and November, then he breaks his workout habits (and very often his training habits, too). By the time spring practice rolls around he is in terrible condition and he dies a thousand deaths trying to beat back. After spring practice is over he has about five months to really get out of condition. September finds the same sloppy crew trying desperately to equal last year's program. That explains the lack of improvement in many famous sophomores.

ART GRIFFITH graduated from Oklahoma A & M in 1924. He joined the A & M coaching staff in 1940. His wrestling teams have won the national collegiate championship 16 times and run up a string of 68 consecutive victories. He also coached the Olympic wrestling team in the 1948 games. Mr. Griffith is also tennis coach at A & M.

Year around workouts (not keyed up to the competitive pitch but more on the instructional, recreational and long-time conditioning level) are conducive to annual improvement and longevity. Professional wrestlers have proven this beyond a doubt. While the professional wrestlers do not train like the amateurs, they do a lot of hard work and wrestle at least three matches a week. Most of them reach their peak during their thirties, and the woods are full of top matchers in their fifties.

Wrestling does not interfere with the basketball, track, swimming, tennis, baseball or golf, teams because those non-contact boys would not wrestle anyway.

Our plea is not to stint any other sport but to provide supervision and workout space for the mavericks—boys who lack height to play basketball, skill to play tennis, etc.—little boys who want to develop and compete. The mavericks are entitled to some consideration. Wrestling will do a lot of good for these boys and do it quickly, if the school will provide facilities and a sponsor. There is alway a man on the high school faculty who knows some wrestling or who likes to work with boys. With the aid of a book on amateur wrestling and advice from the wrestling coach of a nearby college, he should put out a reasonably good wrestling team the first year.

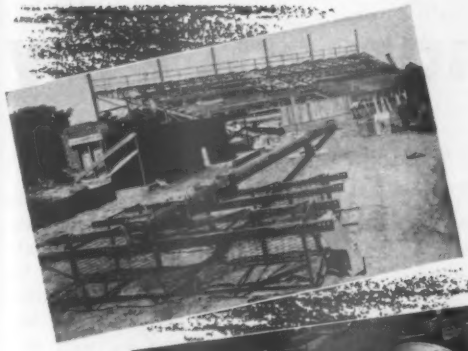
There are a lot of standard moves for beginners and for a starter, the boys should practice the hip block shown in Illustration 1. A few trials will prove that the boy on the right does not always get the takedown and that, of course, adds interest to the scuffle.

Illustration 2 is a cross-body ride. This position gives a beginner an excellent chance to practice control of his opponent until he can maneuver him into a fall position. This hold has been abused for the past several years by boys who use it to score time points only. Other boys who get clever with it will keep on riding with it just because it is great fun. Nevertheless, it is a good hold. Its effective use requires a lot of skill and it can be employed as a lethal weapon.

Illustration 3 is a variation of the cradle hold. This particular version is usually obtained by accident. Many times during a season a boy will upset and land on top of his opponent. One of the most effective holds (which, of necessity, must be clamped on quickly) used in a situation of this kind is some variation of the cradle hold. Sometimes it will secure a fall but more often only a near fall.

Illustration 4 is a half nelson and crotch hold. This hold is probably more universally used than any other pinning combination. It is a hold that must be obtained by aggressive action and a lot of practice is required to insure perfection.

If the parents of boys, who are not already participating in some sport, will insist that the schools sponsor wrestling, they will be overjoyed at the changes in their sons. In addition to improvement in training and workout habits, parents will be amazed at the way their sons fill up their shirts with muscle. These and other desirable benefits combined with the proper temperament will produce the ideal American citizen.



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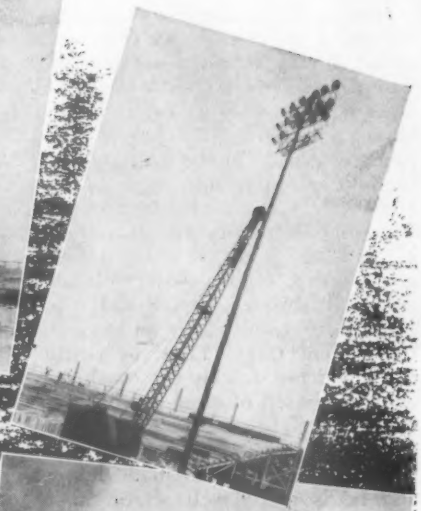

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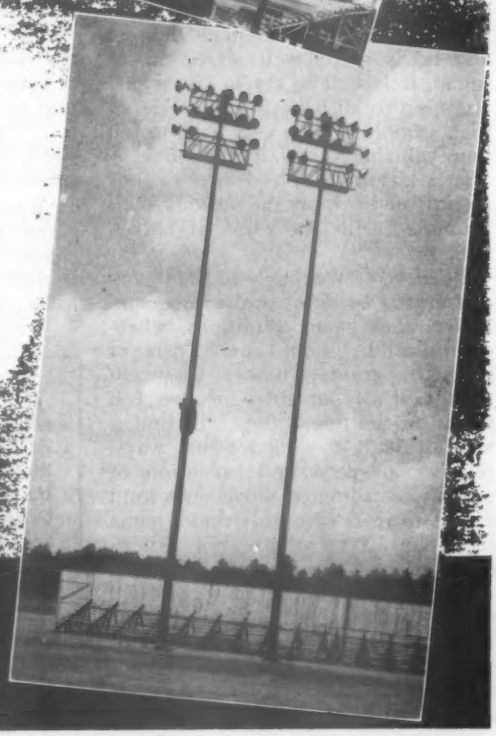

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Preparing for Tournament Play

By ART PETERSON

Basketball Coach, Humboldt High School, St. Paul, Minnesota

THE few thoughts put forth in this article are not given with the idea that they are the right ones for all situations, for conditions may vary in different places just as much as individuals on the squad may differ in ability and attitude. Some of them may differ from those advocated by outstanding coaches, but I believe the best results are obtained when you are able to analyze the specific situation and make the adjustments accordingly.

First of all, I believe that any boy interested enough to try out for a squad should be given a reasonable chance to show what he can do instead of being placed on a "cut list" after having gone through only one or two practice sessions in the gym and having had an opportunity to shoot only a few baskets or pass the ball around. This may be particularly true if one is working with a comparatively green squad, for the boys with such potential abilities as size and speed may make tremendous progress by tournament time. Thus, by cutting the squad too quickly the coach may deprive himself of some good tournament material that does not look too good at the start of the season.

After the coach has made his cut and he is pretty well set on his A squad, it is well to try to give equal attention to all boys, for with boys of high school age it is very hard to tell how valuable that last man may be after a season's play and three or four months of work on the various skills connected with the game of basketball.

I believe very strongly in the theory of *learning by doing* and consequently feel that game conditions, whenever possible, should be a part of practice periods—whether it be in groups of two or three or two full teams on the floor. Boys will find it very difficult to practice one way—relative to speed and execution of various co-ordinated movements—and expect to react favorably under game conditions if they have not experienced those things in practice.

The proper length of a practice period may be a very debatable question relative to boys of high school age, but I would venture to say that more of them are too long than too short. With the desire on the part of the coach to perfect the team play, it is very easy to let his enthusiasm over-rule his better judgment and to continue to work even after fatigue has reached the point where there is a minimum of good learning taking place. With the length of the average basketball season what it is, I feel that it is much better to have the boys leave the practice session with a desire to want just a little more rather than with a feeling of exhaustion from the workout. By that I do not disregard the importance of adequate physical conditioning to play a strenuous game. With the practice sessions well planned and time utilized to the best advantage, I believe the best results may be obtained without long arduous sessions of practice. The reactions of the boys in many cases is a better indicator than the clock on the wall. In general, I would say that practice sessions should be much longer at the start of the season when the coach is probably working with more boys and the work is less strenuous for each individual and then tapered off toward the end of the season. Variations of routine and competitive games involving basketball techniques are very helpful in building spirit and mental attitude toward practice near the end of the season. Consideration of some of the above-mentioned facts may be beneficial in getting the boys into the best mental and physical condition to endure the strain of tournament play.

An inexperienced team should have games in which it has a reasonable chance of playing on even terms and should gain some victories in order to be stimulated by success. An experienced squad, however, should meet the best competition possible in order to be fully convinced that the little things often turn out to be the big factors in winning close ball games against strong competition. The success of our season may be very definitely traced to some of the things learned the hard way in games we lost during the season. When they happen in a game that is lost it usually makes a more lasting impression than if they occur in a game that is won. If the players and coach can face those defeats and profit thereby, they may turn out to be blessings in disguise as far as their accomplishments in tournament play are concerned. This is not always as easy to do as it may seem, especially when there is the constant desire to win and criticism may be placed upon the coach when the team loses. However, if the possibilities for future success are good enough it may be well worth while for the coach to do more experimenting with more players and take more chances to thereby gain better knowledge of each individual on the tournament squad.

There are many controversial ideas relative to the handling of the squad during the time of tournament play. Some coaches will drive a considerable distance after a game and return the following night just to keep the boys away from the tournament site or perhaps for the purpose of getting them back to the environment which they are accustomed to in their normal living conditions. Others may feel that there may be too much time in which the boys would not be occupied or the problem of control of the squad during their leisure time is too great. At our state tournament—as far as convenience and distance were concerned—we could have the boys stay at their homes, but I would rather house them at the hotel with the other tournament teams, for several reasons.

First of all, the coach has the squad under complete supervision during the tournament, and it is much easier to regulate the periods of rest and diet, which are so essential at a time like this. Secondly, it is very easy to assemble the group for short discussions relative to strategy for the next

(Continued on page 52)

***ART PETERSON** attended Gustavus Adolphus College, St. Peter, Minnesota where he played basketball and football. He coached for four years at Grand Rapids, Minnesota, High School; seven years at Willmar, Minnesota, High School, and has been in the St. Paul school system for 13 years. At Willmar his teams won three district championships. Last year his team won the state tourney.*

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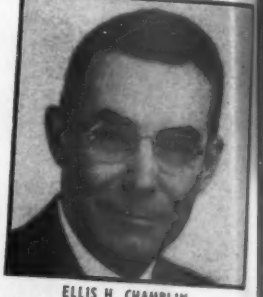

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Training for Track

By RICHARD I. MILLER

Instructor in Physical Education, University of Illinois

Sleep

PHYSIOLOGISTS have not fully determined just how we go to sleep or clearly defined sleep, but one thing is sure, we all need a certain amount of this thing called sleep, whatever it may be.

The exact amount varies with the individual, his age, and his daily activities. For the growing high school boy active in athletics, nine hours is the general recommendation. This general rule is a safe one, but the final adjustment depends upon the individual.

Regularity in the time of sleep as well as the length is important. The universe is a very orderly and rhythmic creation. Years, days and nights, the weather and seasons, the heartbeat are a few of the rhythms in nature. Regularity in sleep and meals establishes a body rhythm whereby our system desires these things at the right time. Irregularity only confuses our system and prevents it from functioning at maximum efficiency.

"Let it be remembered that there is nothing more conducive to attaining and maintaining the proper condition for track and field events than the optimum amount of sleep."[1]

Smoking

Smokers do not make as good athletes as non-smokers. In a report by Kennedy,[2] who studied the smoking habits of cross-country runners at Aldershot, England, he found that non-smokers had three times as many chances to be among the winners as did the heavy smokers. Cureton[3] tested swimmers and found that non-smokers averaged 21.2 per cent better in breath-holding time and swam 18 per cent faster for the 100-yard distance. White[4] tested improvement in the physical fitness of smokers as compared to non-smokers. The physical fitness of these college freshmen was measured by the Illinois Motor Fitness Test. White found that mean improvements in standard score percentages for smokers in the mile run and quiet breath-holding test were significantly inferior to the same criterion for the non-smoking group.

Smoking or the use of tobacco in other forms has no place in the life of an athlete. Champion athletes know this and do not use tobacco. An athlete who uses tobacco is only kidding himself.

A slow resting heartbeat is characteristic of the trained athlete's heart. The resting heartbeat of the non-athlete will be 10 to 20 per cent higher than for the trained athlete. Smoking causes an increase in heartbeat and blood pressure so the heart of the habitually smoking athlete and the non-athlete are similar in their functional ability.

This increase in the per minute rate of the smoking athlete's resting heartbeat indicates his heart cannot have as great a margin of reserve as the slower per minute rate characteristic of the non-smoking athlete's heart. For example, a non-smoker with a resting heartbeat of 70 beats per minute can increase this rate to a maximum of approximately 200 beats per minute, or almost three times the resting rate. The same athlete, if he should use tobacco moderately, would have a resting rate of at least 75 beats per minute which could be increased to 200 beats per minute or 2.7 times the resting rate. This difference in marginal reserve gives the non-smoker a definite advantage over the smoker in his circulatory ability which means more oxygen can be carried to the muscles and fatigue delayed that much longer.

Concerning life expectancy and the use of tobacco, Pearl[6] presents the following tables:

Of 100,000 non-smokers age thirty, 66,564 will reach age sixty.

Of 100,000 moderate smokers age thirty, 61,911 will reach age sixty.

Of 100,000 heavy smokers age thirty, 46,226 will reach age sixty.

Pearl sums up his report with the following statement.

" . . . In this sizeable material the smoking of tobacco was statistically associated with an impairment of life duration, and the amount of degree of this impairment increased as the habitual amount of smoking increased."

Alcohol

The use of alcohol in any form must be strictly forbidden. Alcohol itself is a depressant of the central nervous system. "Apparent stimulation of the individual (or the light feelings and actions of the inebriated) is the result of depression of the cerebral cortex which removes the inhibitory restraint normally exercised over behavior."[7]

The physiological effects of alcohol on the systems of young people is greater than its effects on adults. Also, consumption of alcoholic beverages is most generally associated with late hours which violates the athlete's sleeping and eating habits.

On the issues of tobacco and alcohol, the coach must take a definite stand at an early squad meeting. It is wise for him to point out the harmful effects of these habits and state his unchangeable policy of dropping from the squad any member who violates this rule. The best things in life, the ones we appreciate most, are those we work hardest to achieve. In the realm of athletics, the player must pay a price for victory. Part of this price is a daily routine in line with the best principles of training.

Gil Dodds, the flying parson who set the world's indoor mile mark at 4:05.3 in 1948, had this to say about training.

"The road to athletic supremacy, like the road to everything else, is full of ruts and trouble. Part of the price that must be paid for athletic success is in the physical field. This includes hours of practice and conditioning, an unbroken routine for food, rest, and appropriate types of relaxation. It is important that one doesn't train too hard. Harm may re-

RICHARD I. MILLER graduated from the University of Nebraska in 1947 and received his MA the following year at Springfield College. His best track performance was in the pole vault — he placed third in the 1946 NCAA championships. He also won the pole vault four times in Big Seven Conference competition. He has coached track in Nebraska high schools and is currently working on a book on track and field athletics.

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sult from over-training as well as under-training. The true athlete must also take in the realms of will power, temperance. Great athletes know that loose living and success are antonyms. Drinking, misuse of sex aren't indulged in by champions. These are qualities in character that add wings to a runner's heels because he knows that he rightfully deserves success and will rightfully use it when it comes his way."

Work Requirement for Track Events

The amount of work required to properly condition the runner is directly proportional to the distance of his race. In other words, the longer the distance the longer the preliminary training period. Experimental studies done on a bicycle ergometer substantiate this practical observation. The training curve for sprint cyclists, shows it took seven days to reach maximum performance. The training curve for endurance cyclists, shows a longer time would be necessary to reach maximum performance than this experiment covered. It is logical to conclude from these studies that a further drop in time would have been noticed had this particular experiment been carried on longer than twelve days.

In part this accounts for some of the excellent early season marks in the sprints, whereas in the distance events seldom are the early season efforts the best.

The amount of work required to maintain peak condition is directly proportional to the distance of the race. This principle implies that the sprinters do not need as much work as the boys who run the 880, who in turn should not receive the same work dosage as the milers.

In the competitive season, the speed of practice runs approximates the speed required for the event. A sprinter practices on speed work and a distance runner practices at a pace similar to that required by their respective events. Practice of this kind serves to develop neuromuscular coordination and relaxation for a particular distance and helps the runner acquire pace judgment for his event.

Out of season long distance or cross country running benefits all track and field participants.

In regard to field events, it is difficult to generalize on principles governing work requirements. If the novice has an average amount of muscular and mental intelligence, the development of a skill depends upon sound principles of teaching.

Staleness

A definite lag in an athlete's performances defines the condition known as "staleness". In baseball this lag manifests itself in a batting or fielding slump.

Staleness may be roughly classified into two types: physical and mental.

Physical staleness is caused by too much work; the athlete expends more energy than a good diet and resting program will replenish.

Physical staleness must be further divided into temporary and chronic fatigue. All of us experience *temporary* fatigue for a day or two after an unusually strenuous period of activity. A couple of days rest should eliminate temporary fatigue. *Chronic* fatigue or staleness may be noticed if an athlete receives insufficient rest for recuperation from a period of temporary fatigue before resuming activities or if he takes too strenuous daily workouts; more energy spent than the diet and rest can repay. Chronic fatigue may be caused by poor diet or inadequate rest.

A carefully kept weight chart is an excellent check on physical staleness. All track and field athletes should be instructed in the importance of accurately weighing themselves before and after each day's workout. During the initial or early season practices, a slight loss of weight may be expected. This may be followed by a slow gain due to increased musculature. After these early season fluctuations, if the chart shows a slight, yet consistent decrease in weight, check your boy for the other signs of staleness. This negative balance indicates the body is using energy faster than it can be replaced. If allowed to continue over a period of time, chronic fatigue or staleness results.

Other signs of mental or physical staleness, those the coach notices in his relationships with the boy, may be among the following: loses keen interest in his event and its required training; becomes drawn in appearance; becomes temperamental; sleeps poorly; tires easily; loses appetite.

The best treatment is complete rest and change of atmosphere. The boy should be kept away from the track for a few days and resume workouts when the urge strikes him. The coach should schedule only light workouts for a few days.

Mental staleness is caused by the little conflicts which play in the mind. The objective and subjective symptoms may be the same as mentioned for physical staleness or the coach may find it necessary to become a psychologist in order to seek out the thing or things which are causing the athlete to suddenly go downhill. The athlete may encounter financial, academic or social problems he cannot solve; he may be having difficulty with his lady love. These are but a few of the many little things that may magnify themselves until they grow into mental blocks.

Locating the difficulty is sometimes like finding a needle in the haystack; but the Scotsman who lost this needle never ceased his efforts until he had found it. The coach should have a heart-to-heart talk with the boy concerning what may be the trouble. It may be necessary to visit with his parents, close friends, classroom teachers. No stone should be left unturned in the search to find his difficulty.

Once the problem has been located, the solution may be as difficult as the location. Perhaps the best guide is what grandfather calls "common horse sense" down-to-earth understanding of the boy's problem. Most of the problems in the world today are only complex because man has made them that way.

The coach has a heavy responsibility in the way he handles certain cases of mental staleness. He has a great chance to build wonderful character traits which may be with the individual all his living days.

Benefits of Warming-Up

We all know warming-up is essential, but why? Briefly, there are five principal benefits an athlete receives by careful warm-up. (1) It increases the general circulation, bringing more blood to the muscles activated for the exercise to follow. This delays the onset of fatigue by giving the muscles more oxygen and better means for elimination of waste products. (2) The circulation of blood and heart beat adjust to meet the demands of the activity. Warming-up sets the system in readiness for the activity and minimizes adjustment during the race. (3) The warm-up stretches the muscles, thereby reducing the chance of muscle injury. Muscles always work in pairs; one set pulls the limb forward and its companion or antagonistic muscle pulls the limb backward. For example, in the leg the quadricep muscles (on the front side of the upper leg or thigh) pull the thigh up toward the chest while the hamstrings (on the back side of the thigh) pull

(Continued on page 59)

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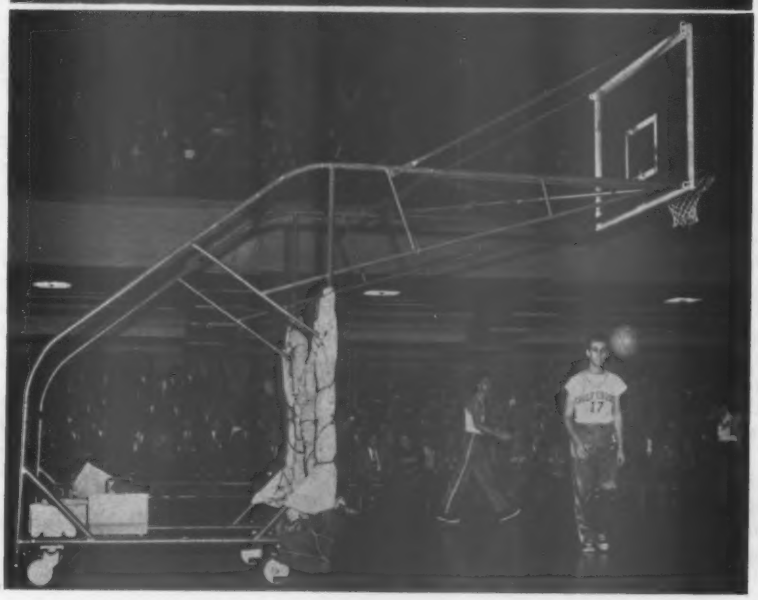


The Place of Boxing In Physical Education

By TRIS M. CARTA

Football Coach, Roger Ludlowe High School, Fairfield, Connecticut

TODAY there is a great deal of literature published emphasizing the dangers of boxing. Because of these claims, the majority of colleges and high schools have hestitated to include boxing among their athletic activities. However, it is the belief of many physical educators that boxing can contribute a great deal to the athletic program and to the boys who participate.

Last year, at the University of Michigan, one hundred and twenty boys participated in our boxing program. The only injuries that occurred were four bloody noses and one black eye. This is a good indication of what can be done when the following safety precautions are taken. These are: first, a physical examination; second, proper facilities and good equipment; and third, trained coaching personnel.

Physical Examination

Boys electing to participate in the boxing program should be given thorough physical examinations, such as are given in all other sports. The examining physician should take into consideration the fact that in boxing, energy is used in quick spurts. Therefore, special attention should be given to the heart. Boys with crooked teeth, bridges, or braces should not be allowed in the boxing program.

Proper Facilities and Good Equipment

A suitable place to box and good equipment are absolute essentials without which no high school or college should consider having a boxing program. It is important that boxing should not be conducted in small rooms where injury from walls, floor, or pipes may easily occur. A portion of the school gymnasium could easily serve as a safe boxing area.

For the average program, essential equipment includes head gears, gloves, rubber mouthpieces and mats for floor covering. An extensive program would add jumping ropes and light and heavy bags. It is highly recommended that 12-ounce gloves be used for boxing classes. These well-padded gloves minimize the chances of injury and eliminate the necessity of taping.

Trained Coaching Personnel

To conduct a safe and well-balanced program, the instructor should be a trained physical educator with boxing experience. He can insure safety for his boys through a physical conditioning program, short rounds, and lessons in the fundamental blows only. It is imperative that he take every precaution necessary for the safety of the boys involved. One of these precautions is never to allow any participation without the instructor's supervision.

A period of at least two to three weeks should be set aside for physical conditioning before actual boxing is started. This training should include roadwork, neck exercises, stomach exercises and arm exercises. If equipment is available, pulley weights, rope skipping, and work on both the light and heavy bags help prepare the body for boxing.

Another responsibility of the instructor is to provide short rounds and to match the boys properly. In competition, three rounds of two minutes duration and one minute rest between rounds is recommended. During the training period the coach can size up the boys as to weight and previous experience. He will then be able to arrange bouts between competitors of equal or near-equal ability.

"Slugging" has no place in the boxing program. The left jab is the fundamental boxing punch and must be strongly emphasized. In teaching this blow, the group method may be used. First, the proper stance should be demonstrated to the group. Then every step in the proper delivery of the blow should be explained. The left jab should be repeated over and over, making sure that the footwork is correct. The boxing coach should teach only the basic punches. These are: the left and right to the face and to the body. For each of these punches, the correct defense should be taught. The coach should stress that to outpoint by skill and speed is more commendable than to win by a knockout.

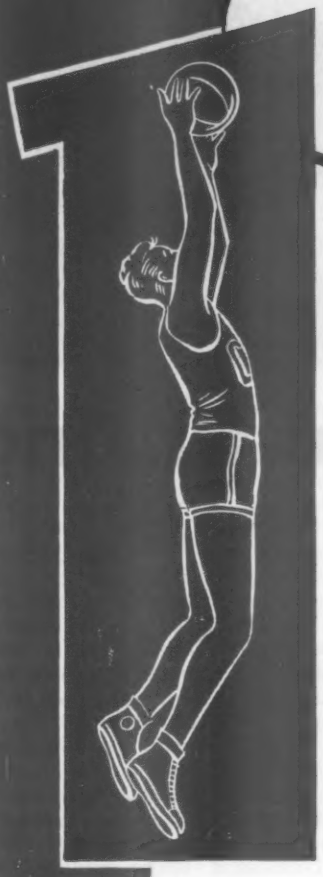
Conclusion

In the final analysis, boxing should become much more than physical combat between two individuals. A broader goal can be attained by using the proper emphasis in the instruction of boxing.

During the first class meeting, I always tell the boys that the program is called "Recreational Boxing". This is important, for it must be remembered that most of the boys are novices. The objectives are to teach poise, self-confidence, sportsmanship, and the ability to think and to make instantaneous decisions while "under fire". I believe that stating these objectives to the boys before actual drills begin aids greatly in giving them the true picture of the program.

The individual boy might have all the physical qualities necessary for a good boxer – endurance, speed, and power – nevertheless, fear and worry may make him a poor competitor. It is the responsibility of the coach to correct this state of mind. Helping the boy control his emotions is as vital as helping him learn the skills of boxing. Fear may be counteracted by the honest sympathy of the instructor. Self-confidence may be built by matching the competitors evenly so that each youngster has a chance to win. As boxing is successful in developing poise, self-confidence and sportsmanship in the young athlete, it serves a worth-while purpose in the physical education program of today. Of equal importance is the fact that it aids in moulding good citizens of tomorrow.

TRIS CARTA graduated from the University of Michigan in 1947 and received his MA the following year. While at Michigan he was the boxing instructor. At Ludlowe he also coaches track.



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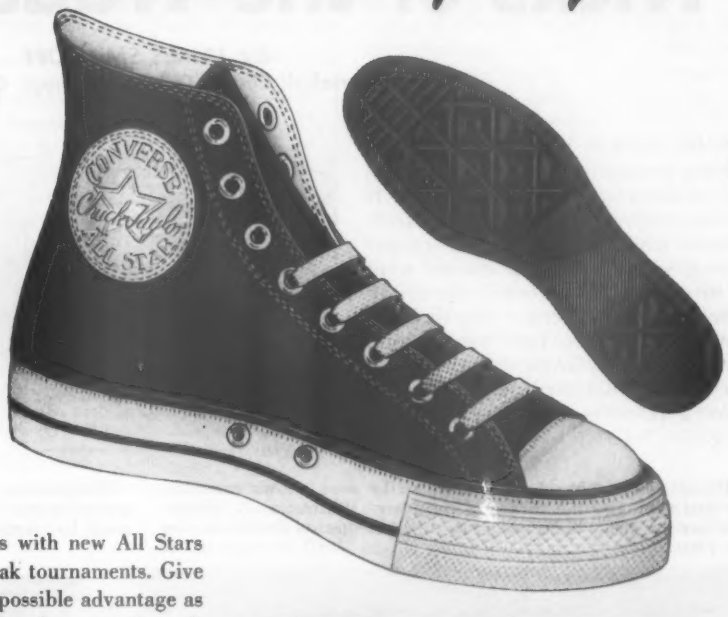

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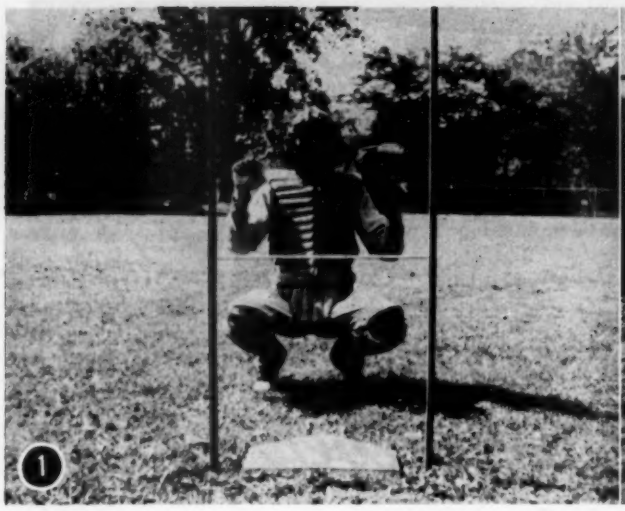
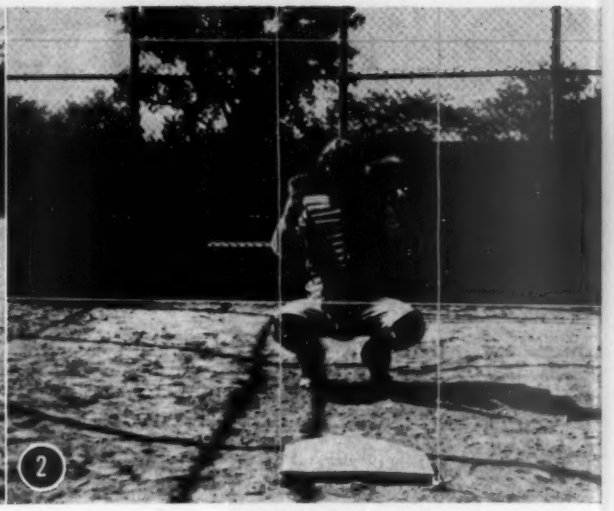
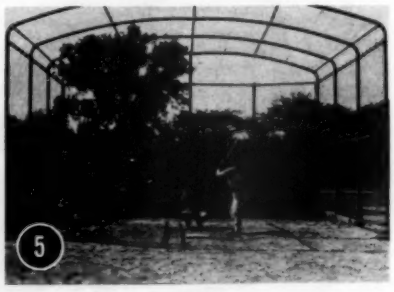




Tricks of the Trade In Hitting

By JAMES SMILGOFF
Baseball Coach, Taft High School, Chicago

SUCCESSFUL hitting is based on the proper co-ordination of physical abilities and mental faculties. It is the result of employing good techniques while maintaining a proper mental attitude. Good hitters want to hit—they have a keen desire to hit. They thoroughly enjoy the thrill of having bat meet ball for a solid smash, and they know that they *must* hit to earn that thrill. In short, they have a positive attitude toward hitting.

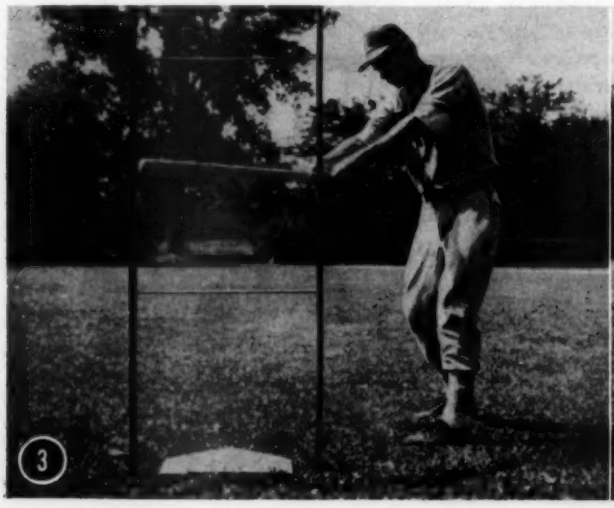


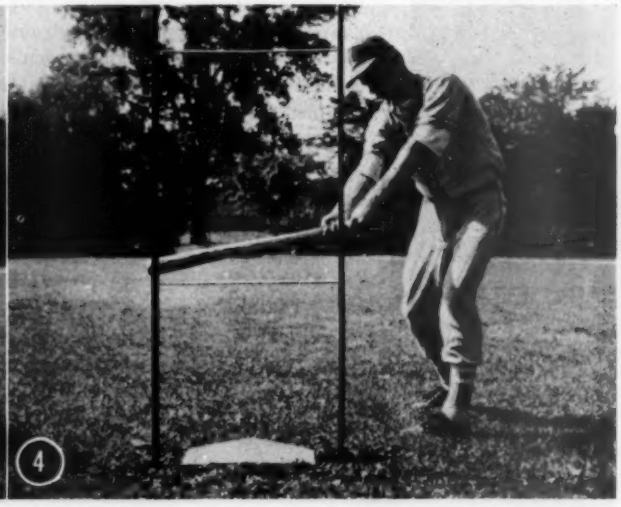
Too many ball players have a negative attitude while at the plate. They *hope* they will hit the ball. They feel that they *might* hit if luck is with them or if the pitcher does not bear down on them too much.

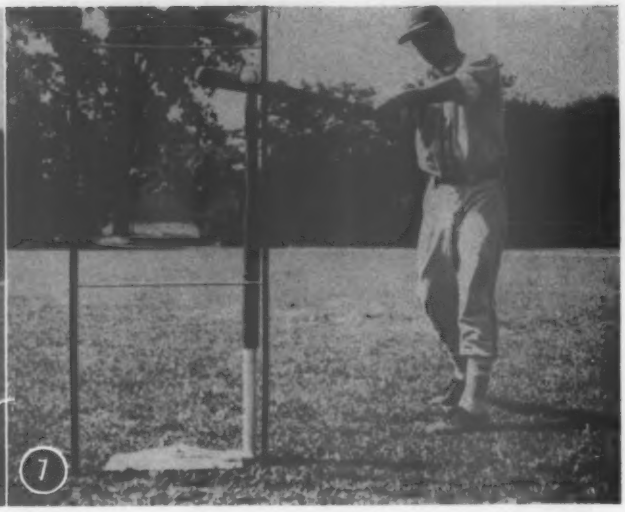
Then there is that group of batters (and there are many of them) who enjoy the thrill of hitting and would like to hit, but are indecisive at the plate when the pitch is delivered. They seem to be waiting for the perfect pitch through the middle of

Illustration 1 (above). The large strike zone allows room for the ball that clips the corner of the plate. Illustration 2 (above). The narrow strike zone results in called strikes on the corners of the plate.

Illustrations 3 and 4 (below). Practicing swinging against the proper strike zone. Illustration 5 (above). A strike zone can be made by attaching ropes to the supports of a batting cage.







the plate. And how often does one see this same type of batter, after being called out on strikes, come back to the bench and honestly believe that the pitch should have been called a ball? Many high school and college players have a poor idea of how big their strike zones are. Too many batters have a tendency to wait for the perfect strike through the middle (the cripple)—the easiest pitch to hit. When these same batters are asked to point out where they would like to see their favorite pitch thrown they usually designate one small strike area.

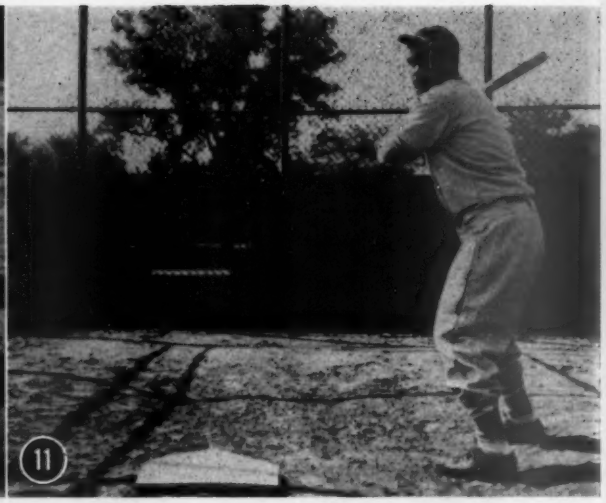
In most cases batters do themselves an injustice when hitting in batting practice. Most batting practice sessions seem to last forever before each batter gets his chance to bat. This often is due to the fact that each batter has such a small strike-zone pictured in his mind that he refuses to swing at any pitch outside his personal little strike area regardless of whether the actual pitch is a strike or not.

Good hitters visualize a large strike zone because they want to hit, and feel that they must hit to experience the thrill they desire. In other words they recognize a strike whether it is on the corners of the plate or through the middle of it. Furthermore, good hitters swing at more close, doubtful pitches just off the corner of the plate than they take. They have just the opposite attitude toward the strike zone that the weak hitters have. Good hitters swing at doubtful pitches, weak hitters do not. Good hitters don't wait for "the cripple;" they visualize a large strike area so that they can get a chance to swing at more pitches. They are ready to

***JAMES SMILGOFF** played baseball at Lane Technical High School in Chicago and at the University of Wisconsin. After playing professional ball he became a farm-team instructor and scout for the Chicago Cubs. He has served as technical advisor for two movie shorts on baseball, and in 1946 was coach, under Ray Schalk, of the United States amateur team. Last year his team at Taft won the city championship.*

Illustration 6 (above). Using a batting tee and strike zone to judge a low, outside pitch. Illustration 7 (above). Using a batting tee and strike zone to practice hitting a high inside pitch.

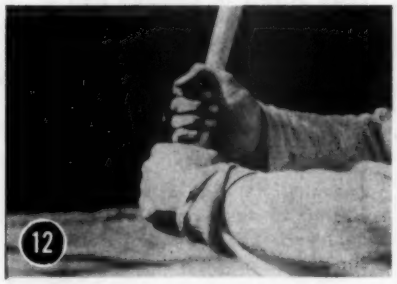
Illustration 8 (below). Placing the front foot closer to the plate helps in hitting to the opposite field. Illustration 9 (below). Turning the toes of the front foot toward the catcher also helps to hit to the opposite field.



hit all strikes and not only those through the middle of the strike zone. The batter who restricts his mental and visual strike zone also restricts his batting average.

The writer once talked to Rogers Hornsby, probably the greatest right-handed batter of all time, about this matter. Hornsby pointed out the fact that most young players visualize the maximum width of the strike zone as seventeen inches because the width of home plate measures that distance. Actually the width of the strike zone should be increased two and three-quarters inches along each side since this distance is the diameter of the ball and any pitched ball of proper height that barely touches the edge or corner of the plate is a strike. Thus, the width of each batter's strike zone is actually twenty-two and one-half inches (Illustrations 1 and 2).

It is possible to develop a more positive attitude at the plate. It is also possible to teach young batters to hit more pitches in a larger strike area. The following suggestions will help in this regard.



1. Have the batter stand at the plate and practice swinging while looking at the proper strike zone so that he can actually see the size of the area he must protect. A few poles set 22½ inches apart with slots for raising and lowering the strike zone according to the size of the batter at the plate might prove helpful (Illustrations 3 and 4).

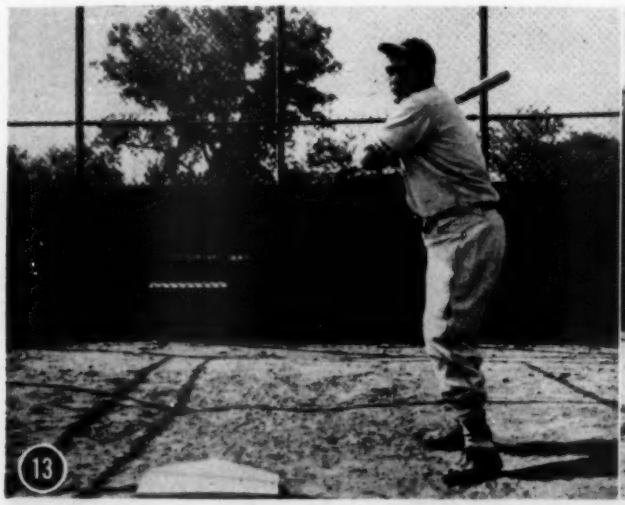
2. A similar type of batting exercise could be employed by having the batter swing while practicing visual judgment of the strike area. The strike area could be made with either rope or tape attached to a pair of high-jump standards or the supports of a batting cage (Illustration 5).

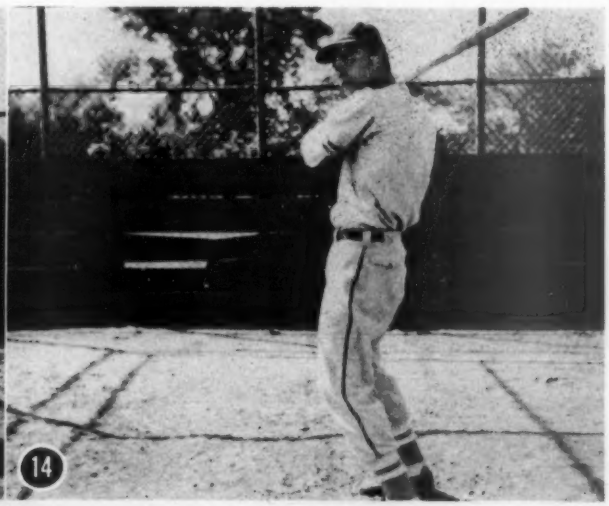
3. By using tape it is possible to make a strike zone against a gym

(Continued on page 60)

Illustration 10 (above). Turning the toes of the front foot toward his power side will help the batter pull the ball. Illustration 11 (above). Turning the toes of the front foot toward his power side gives the batter greater freedom of hip movement. Illustration 12 (above). Turning the palm of the top hand toward the pitcher helps to increase swing power.

Illustration 13 (below). Placing the body weight over the front foot may eliminate stepping in the bucket. Illustration 14 (below). Slumping the hips and knees toward the plate may eliminate stepping in the bucket.





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Free-Lance Basketball

By CARL VERGAMINI

Basketball Coach, Hurley, Wisconsin, High School

WITH the constant changes in basketball play, both in offense and defense, the free-lance type of play is becoming more and more popular. This type of play has several advantages over the set or pattern type of play. First of all, it creates initiative, secondly, it affords more time for fundamentals and general practice, and thirdly, it is very popular with the players.

In our free-lance ball at Hurley we employ an offense as unorthodox as we can possibly make it. This is done on the theory that opposing teams today know most of the standard patterns employed by the average team. Therefore, we try to keep our opponents guessing and we do this in a number of ways. First, we keep our players shifting positions as often as the situation affords. We employ a press when the opposition least expects it, fast-break only at intervals and try to get the opposing team as confused as possible. We place five men on the floor without regard for position. In all standard situations, such as jump balls, free throws or out-of-bounds plays, each player maintains position on the floor in a relatively orthodox manner until the ball is in play, then our unorthodox style takes over.

Every coach has seen the situation where a team cannot cope with a pressing defense or with a certain type of zone defense. In the past three years we have played a total of seventy-five games. In this period only three teams attempted to press us. I attribute this to the fact that a press is not at all successful against an attack that is constantly changing. In these same seventy-five games, fourteen teams played a zone against us. Most of these teams were not basically zone teams but used the zone in an attempt to stop our free-lance attack. Only one was successful. The zone was once our downfall but it has been more than welcome the past three years. With the constant changing of positions, center changing with guards, guards and forwards interchanging, no zone has been entirely able to maintain itself. Against a straight man-for-man defense we play a double post attack with the posts wide. Our two tallest men assume the posts. As soon as they are in position anything can happen.

Against a shifting man-to-man defense we tried a double post attack. If this did not succeed, we shifted one of our back-line men to a post. This continued until several men had a try at the post position. If the double post was not properly functioning, we shifted to a single post. At any time even the smallest man on the floor, without any signal from anyone, moved into the post or a forward position as it was vacated. Naturally, when one man finds he can score from a position, he remains there, but the moment he finds himself covered he makes a change. At Hurley, we have a rule on offense, that if, let us say a 5-foot, 9-inch man is guarding one of our players who is taller, the taller man moves to the best offensive position. Likewise if a 6-foot, 6-inch man is guarding our center who is 6-feet, we move the 6-foot man out to the back court on the theory that the 6-foot, 6-inch man will follow, having been assigned to a man. This happens more often than not. It removes a rebound threat from rebound position.

If it is to our advantage to move the ball up-court slowly we do it that way. If, however, we wish to catch the opposition napping occasionally, we move it fast with one long pass from out of bounds to mid-court at the side. Our two tallest men break fast. The ball is passed to either of these two men, with the center moving up the middle of the court. This same surprise element is sometimes used in the form of a press. A number of times we have scored by an interception of a ball thrown from out of bounds. Perhaps we do this only five or six times a game, but if we can intercept or tie-up the ball a few times, we succeed in confusing and demoralizing the opposition to some degree and pick up a few points that are practically gratis.

The free-lance game saves a coach much valuable time, which I believe should be spent on fundamentals. Of course, this type of play is no better than any other if the players cannot pass, dribble and shoot. However, it does away with half the time spent on blackboards and the demonstration and practice of orthodox plays. In an average midweek practice at Hurley, we spend the first hour on fundamentals. I then talk to the squad about five minutes, primarily about our next opponent. Then we spend about twenty minutes on the half court. This is where I believe the free-lance game is mastered. I am convinced that the constant practice on the half court teaches the players to know each other in every detail. By a shake of a shoulder, Joe knows just how deep Tom will cut; by a foot movement, all players know Bill is about to shoot. This is the success of team practice.

I have never seen a style of play that is more popular with the players. Every boy likes to play free-lance. It gives him a chance to show his own skills, his ability to think and react quickly. Because we use the free-lance game, I very seldom change a boy's style of shooting unless he cannot hit as consistently as he should. When a player can hit a consistent 30-35 per cent, a coach shouldn't make too many changes.

We started the free-lance type of play at Hurley just three years ago. During this time, Hurley has won sixty-seven games while losing eight, winning two conference championships, narrowly missing the third to Bessemer, Michigan, and placing second, third and first in the Wisconsin

(Continued on page 58)

***CARL VERGAMINI** graduated from the University of Iowa in 1940. He went to Hurley in 1942. That year his football team won the conference championship and his basketball team did likewise and placed third in the state finals. After serving in the Navy, his '46-47 basketball team won the conference championship and placed second in the state finals. In '47-48 his team was conference runner-up and placed third in the state tourney. Last year his team won the conference championship and the state tourney. During four years his teams have won 85, lost 12.*

NEW BOOKS

Cartooning Sports, *by Harriett Weaver. Published by the Davis Press Inc., Worcester, Massachusetts. Forty-four pages (size 9 x 12).* $3.75

Simply and clearly this book explains and illustrates the techniques of drawing figures in action. Sound drawing principles are the basis for delightful exaggeration of the various sports and give a constant source of ideas for the beginning cartoonist as well as the experienced teacher.

The book begins using stick figures and quickly teaches the principles of body proportions and how to show the main directions of movements. It then progresses to form and follow through and the final touches of shading.

The analysis of body movement in the fifteen sports discussed is very helpful and the author gives tips as to special things to look for in certain sports.

Manual of Lifesaving and Water Safety Instruction, *by Charles E. Silvia, Published by Association Press, New York. One hundred seventy-three pages.* $4.50

The author has given us an illustrated manual on lifesaving for instructors. He feels that lifesaving should be based on the principles of watermanship. These principles he names as: 1. endurance (organic power); 2. breath control (exclusion of water from the nose); 3. agility (ability to move quickly); 4. skill (knowledge of techniques); 5. emotional fitness (confidence tempered with humility); and 6. directed aggressiveness.

A partial list of chapter headings is as follows: How to Teach Lifesaving and Water Safety; Recovery of a Submerged Victim; Approaches and Carries; Defensive Tactics, Releases, and Water-Wrestling; Lifts, Carries, and Let-Downs; Resucitation.

All Star Basketball Score Book, *by Stan Riddle. Copies may be ordered from the author at 524 Second Avenue, Seattle, Washington.* $1.50

This score book is a scoring system that gives a complete and permanent picture of the whole game for years to come. It provides a running score of each individual as well as of the team. Baskets and free-throws are timed as they take place.

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Conditioning for Volleyball

By WILLIAM T. ODENEAL

Volleyball Coach, Florida State College

IN planning a program of conditioning for any sport or activity, one must not take for granted that just any group of exercises will meet the needs of a team. Conditioning for a sport begins with a philosophy regarding the particular activity with which we are concerned; and since the extent of our aims indicates the methods we employ, it is evident that each individual coach must formulate his own philosophy and program in conditioning his team. Since the qualities of a physically fit man include his mental, physical, social, and spiritual aspects, we must deal with a man as a whole, and not as a part. In other words, when we begin to condition a man for a sport, we must concentrate on the whole man and not just his physical capabilities.

The definition of conditioning, as pertaining to volley ball, is, the development of the body to a state or condition where the most efficient performance may be achieved. This performance is characterized by explosive power, endurance, agility, coordination, and relaxation, including sound social, mental, and emotional reactions.

In many cases, while conditioning a volley-ball team is mainly a physical endeavor, certain other factors influence the game and are considered important in the conditioning program. To have a well-conditioned team, each member must be cognizant of certain objectives of the games and principles that strengthen all bodily powers. Listed below are some of the objectives and principles that the game of volley ball provides for players:

1. To develop strength, endurance, and speed.
2. To develop agility and neuromuscular skills.
3. To develop honesty and fair play.
4. To develop good sportsmanship and emotional control.
5. To develop social adjustment and cultural development.
6. To provide wholesome recreation.
7. To develop above all—team play through group co-operation.

Physiological Characteristics that Affect Conditioning

It is not the intent herein to list all of the physiological facts concerning the body but to name a few facts about which all teachers, coaches, and managers of volley ball should be cognizant. A coach should have some understanding of bodily energy needs and expenditure, lactic acid accumulation, oxygen debt, and the results of extreme fatigue. A coach should come to understand what excess perspiration, muscle soreness, and weight reduction may mean to his men. With such knowledge and an appreciation of individual differences, he should be able to condition a team more readily.

Diet or Nutrition

The condition of a player is related to his eating habits and if improperly handled can cause dire results to the best physically-conditioned team.

According to Dr. Karpovich, physiologist at Springfield College, an excess of any nutritive substance beyond the needs of the body does not increase physical fitness but, to the contrary, may decrease it. The amount of food consumed should be dependent on the amount of daily physical work done. A well-balanced diet should be provided which includes meat, milk, eggs, a variety of vegetables, and fruit. A detailed menu and construction may be found in a book by L. Jean Bogert called *Nutrition and Physical Fitness*, Saunders and Co., Phildelphia, Pa., 1948.

"Physiologists agree that carbohydrates are the chief source of bodily energy. The excess sugar in the body is stored in the liver and in the muscles as glycogen, which is liberated as needed. Some starch carbohydrate foods are cereals, bananas, peas, corn, beans, potatoes, and squash. Some sugar carbohydrate foods are table sugar, honey, maple sugar, chocolate, figs, dates, and preserves. Proteins such as milk, fish, eggs, cheese, and meat, help build and repair tissue cells."

Between the ages of 16-26, tissue-building protein foods should be given prominence. In warm climates, fats and carbohydrates should not be included in the diet to an excess, but in the cold climates they should be increased from the normal amount eaten.

The playing of volley ball in tournaments requires as much time as any of the major sports, therefore, proper amounts of sleep are indispensable especially during training and competition. At least 8-10 hours of sleep are needed for the normal athlete each night, and for best results, separate beds should be given to restless, high strung, and nervous individuals. A suggestion to sleepers is that they should try to sleep on either side with the knees drawn up slightly.

All activities of intensive competition such as volley ball also need the greatest amount of relaxation during play. Relaxation between matches and while the ball is not in play often means the difference between the winner and the loser. Psychologists have repeatedly pointed out that relaxation is of great benefit in restoring a tired body to normal.

Psychologic Considerations

Healthy mental and emotional control is almost as important as playing skills during actual play. Since volley ball is a non-contact sport, the development of sound mental attitudes is almost a necessity.

Often the members of the team become upset when they are behind or being outplayed by a superior team. It is important at this stage of the game that good mental and emotional control should be evident.

In conditioning a team, the coach should stress teamwork above all else. During practice the team should be urged to give oral encouragement to teammates and to show good sportsmanship in all phases of the game. The coach should instill in his team that "will to win" and desire to condition themselves to the best of their abilities.

Set-up men must be taught to have confidence in themselves and the spiker to whom they set the ball. When doubt enters the mind of the server, the set-up man, or the spiker, they lose their effectiveness and team play suffers. A positive attitude must be maintained at all times while in competition.

It is important to note that while some players' efficiency increases when subjected to ridicule by the coach, it is not the accepted rule. Ridicule yields poor results, especially where young players are concerned. Many times praise is often over done, but it is by far the best weapon in

WILLIAM T. ODENEAL completed the requirements for his master's degree at Springfield College last year. He assumed his present position last September.

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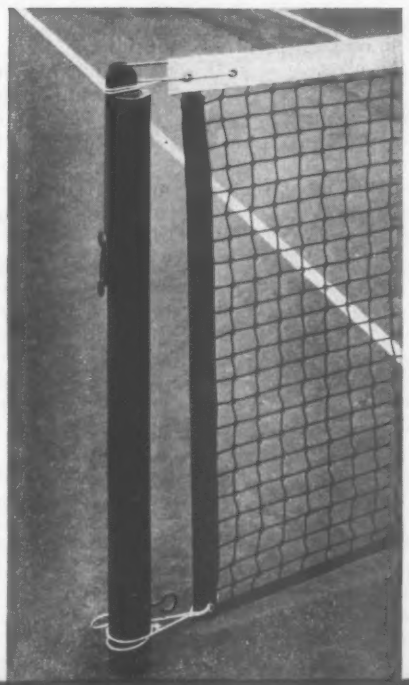

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the use of maintaining good mental control of the team.

Medical Examination

"At the beginning of the season before any meeting of the volley ball team, each member should report to the school or other physician for a medical examination. The examination should be a complete 'checkup' on any previous examination. Special attention should be given to the condition of the weight, general health, nervous system, bones and joints, feet, eyes, nose and throat, glands, heart, lungs, abdomen (hernia), blood pressure, and urine. No boy or girl should be allowed to participate in any form of strenuous physical activity without first having had an examination of the important items mentioned above."[2]

Before the conditioning or teaching of a team is begun, written and physical tests should be administered. The written tests would include rules, play and judgment factors of volley ball. The physical tests would include the Russell and Lange serving volleying test.[3] This would be of help in evaluating the class in organization and giving the coach a picture of the abilities of the class.

Factors to Consider Prior to Conditioning Team

1. Has every member of the team a medical examination?
2. How old are the members of the team?
3. Is the program designed for competition, recreation, or development?
4. What sex are members of the team? (Don't give females exercises designed for men)
5. In what condition are the members of the team now?
6. How much heavy resistance exercises can team members withstand and what type is best for the developmental program?
7. How fast can members of the team exercise without undue strain?
8. How long can members of the team exercise without excessive strain?
9. Should full body exercises be given for all members; in other words, to what extent should the body be exercised?
10. Consider individual differences of members as some members require less to condition than others.

Warm-up Exercises for Ages 12-15.

It is recommended that the minimum amount of time alloted these exercises be ten minutes. The dosage given a group may be regulated by the number of repetitions or by speeding up the count on each exercise. These exercises may be administered to the group as a whole, led by the coach, or may be posted and each player can exercise on his own. This applies to warm-up exercises for all age groups.

1. Rub hands together vigorously (30 seconds).
2. Clap hands as applauding (30 seconds).
3. Standing position—legs apart. Move arms forward, overhead, to side and down, flexing fingers to count of four at each position (one minute).
4. Straddle hop (one minute).
5. Standing position—legs apart, hands on hips. Bending at waist, touch right hand to left toe, return. Touch left hand to right toe, return, to count of four. (One minute).
6. Standing position—hands together overhead. Bend from side to side to count of four (one minute).
7. Standing position—hands on hips. To count of four, bend knees gradually to full knee bend and return. (One minute).
8. Explosive jump, swinging arms upward at each jump (one minute).
9. Back lying position—sit-ups, touching thighs and toes with hands. Count of four (30 seconds).
10. Front leaning rest position-push ups (15 seconds).
11. Running in place—moving arms in all directions, varying speed of run (one minute).

Warm-up Exercises for Ages 16-22.

1. Straddle hop (jumping jack) (one minute).
2. Running in place, swinging arms in all directions, varying speed and leg motion (one minute).
3. Standing position, arms to side. Move arms in circle small or large, reversing every four counts (one minute).
4. Standing position, legs apart, hands clasped behind head. Alternately bend body sideward at waist to count of four (one minute).
5. Standing position, legs apart, hands on hips. Bending at waist, touch right hand to left toe, return. Touch left hand to right toe, return. Count of four (one minute).
6. Standing position, hands clenched on chest. Count of one, step forward with left foot and execute left hook with left hand. Count of two, return. Alternate right and left hook to count of four (one minute).
7. Back lying position. Do sit-ups for 30 seconds, hands behind head.
8. Back lying position, legs vertical in air, keeping trunk on floor. Bend at hips touching feet to floor on both sides of body (one minute).
9. Front leaning rest position. Pull body along with only use of arms, dragging the feet (one minute).
10. Up on feet, running in place, moving arms in all directions and flexing the fingers (one minute).

Implications of Exercises

Volley ball is a game where a ball is played back and forth across the net, hitting the ball not with a paddle but with the hands. Since most injuries that occur in volley ball are to the hands and fingers, they must be strengthened and toughened. The hands must be thoroughly warmed up before each practice and game by rubbing them together, inter-lacing the fingers. Clapping the hands as in applauding, with renewed rubbing and flexing the fingers, will warm and toughen the hands. This type of warm-up should be done every day. It is not advisable to do finger push-ups from the floor because this may cause injury to the hand and the harm it does through finger stiffness outweighs the good. Before practice begins, and following the warm-ups, the players should form small circles and pass the ball around at moderate height to limber the hands further. Any type of ball-handling drill is recommended. This should be done at all levels and ages of play.

Many coaches feel that long and strenuous exercises should be started early in the season and continued that way throughout the year. This, however, is not practical in all cases and the philosophy of the coach and the condition of the players will determine just how long or heavy the training will be. It is suggested that exercises be light for the first week, emphasizing fundamentals and lead-up games. During the second week and until the beginning of competition, exercises should be heavy with plenty of teamwork, team play, and scrimmages. During competition, warm-up drills should be short in duration and faster in pace for each exercise, but using a greater variety of exercises.

Many physical educators are hesitant about giving strenuous exercises to young athletes for fear they will develop weak hearts. There is no reason according to Dr. Karpovich, physiologist of Springfield College, that exercise should not be given during the early years. He says there is no discrepancy between the development of the heart and the cross-section of the largest arteries. The volume of a fluid passing through an opening is equal to the product

of the velocity by the area of the cross-section of the opening. This dispels the old theory that exercises should not be given to children because the blood vessels do not develop in proportion to the heart.

A few pertinent facts concerning exercises are as follows: During warming-up exercises it is important to emphasize full and even breathing. George Stafford advocates giving exercises with emphasis on speed for men under 30, and emphasis on endurance for men over 30. He also stresses rhythm and encouragement during the exercises. Members who are laggards or disinterested in exercises should have one exercise named for them and that exercise should be stressed when those members become obstinate.[4]

A conditioning program in any sport is as vital a responsibility of the coach or trainer as any other phase of the sport. Today when sports are becoming more specialized and competition keener, the intelligent, conscientious care of the athlete is a necessity. The parents entrust their children, and the players in turn place their talents in the coaches' hands and they are entitled to his best care, ethics and knowledge. A slight glance at the injury list caused from athletics will make any coach aware that conditioning is needed for his team. Those who have experienced the pain and discomfort from injuries sustained from lack of conditioning will agree that no sports program or activity should begin without it.

If a coach desires to have his team at full strength and with all members ready for play, then greater measures must be designed to so condition his players that they are able to meet the most vigorous competition throughout a season of volley ball activity.

Bibliography

1. Bilik, S. E., **The Trainers Bible,** T. J. Reed and Co., N. Y., N. Y., 1948, p. 90.
2. Morrison, W. R., and Chenowith, L. B., **Physical Diagnosis,** Lea and Febiger, Philadelphia, 1947, p. 38.
3. Clarke, Harrison H., **The Application of Measurement to Health and Physical Education,** Prentice Hall, Inc., N. Y., 1948, p. 279.
4. Stafford, George T., Duncan, Ray O., **Physical Conditioning,** Univ. of Illinois, N. Y., 1945.

Offense Vs. Set & Zone

(continued from page 14)

3. Three pivots toward basket and, if open, shoots. If he is covered he tosses out to 2. Two is set and takes a short step with his left foot and goes into the air for the shot. If covered by X4, he passes to 1 while still in the air as 1 has broken over for the ball when X4 pulled out of position.

Our set-up against the three-two zone is based entirely on a figure-eight movement by the forwards and center. It requires good timing by all players as the forwards must time their break with the passing of the ball by the guards. This is shown in Diagram 11. Five and 4 pass the ball between them. Two breaks from the corner into the free-throw lane. If he is open he gets the ball from 5, preferably. He immediately wheels to shoot. If neither X1 or X2 cover, he shoots. If either one covers he passes to either 1 or 3 who have slipped in behind whichever guard covered. If he does not get the ball from 5 for some reason, he continues across court. As he completes his run, 1 moves in toward the free-throw lane. This figure-eight process is carried on in this manner until a good shot is offered to someone.

In summary may I say that the foregoing is only a part of our attack. It is the foundation but from it we get many variations which score baskets for us. We use it only as a pattern and we are in no sense bound by it. It has served us well as we have won 92 out of the last 98 games we have played. Because of this I feel that with a little drill it would work well in most any high school.

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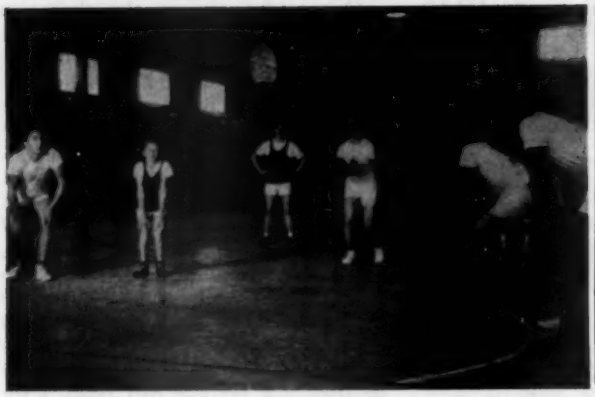

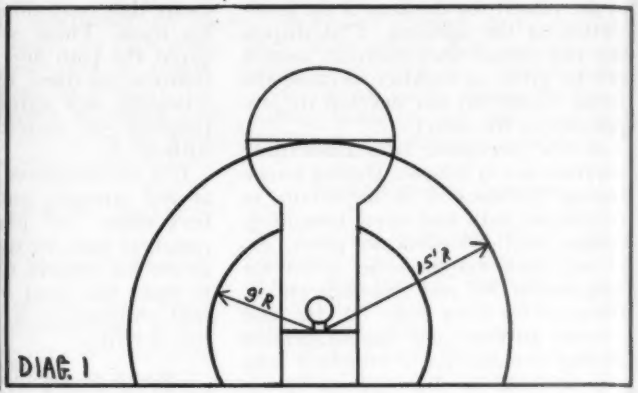

Eliminating the Tall Man's Advantage

By G. F. LIEGEROT

Supervisor of Physical Education, Amador County, California

LITTLE did Dr. Naismith realize when he nailed the peach baskets up on the walls of the gymnasium at Springfield College what an impact that simple act would have on the lives of many athletes. Perhaps we can blame the present-day mania for tall players upon the lack of foresight of the good Doctor when he chose to put wooden baskets up in the air above a man's head. Since it was the objective of this game to cause a ball to go into the top of a basket it was only natural that an endless drive should begin to devise means to approach a position whereby the ball could be simply dropped downward into the basket.

True, this fact might, in itself, be harmless but its magnitude has developed tremendously since the turn of this century. Basketball enjoys the greatest spectator interest of all sports of our nation and thereby fosters the ceaseless search for height. Men who once were considered freaks or sideshow pieces at best, are now nurtured throughout the length and breadth of our land. The taller they are the more eagerly they are sought after by coaches. Yes, the age of the tall man is at hand. Many a coach will say that if you give him tall men he will develop a winning team.

The controversy over the advantage of height in basketball has been hashed over too many times and need not be reiterated here. Suffice it to say that bit by bit the rules have been changed to counteract the advantage of the tall man. The center jump was eliminated, then the three-second rule came in. Various methods to stop the tall man were evolved by ingenious coaches from time to time, but the effect has been negligible. Today, the tall man is the desire of every coach in the land because his advantages are innumerable.

Thus we come to this writer's contribution to the endless battle. Perhaps it is or is not original. Whatever the case, it has been tried out in a dozen regulation basketball games with reasonably detectable results.

Let us begin by examining the facts. First, the three-second rule governing the position in the key-hole. The key-hole is six feet in width or three feet laterally from the center of the basket. Three feet constitutes half a step to the tall man, hardly an important factor in counteracting the advantage of the tall man. Secondly, the elimination of the center jump following a score has reduced the advantage only insofar as beginning a play is concerned or control of the ball. I feel that some method to eliminate a jump entirely should be devised, for the jump is still used on held balls and the tall man is unquestionably placed right back in the driver's seat. Thirdly, as long as a player is entitled to a spot on the floor without bodily contact and forceful obstruction, there will never be developed a means of doing away with the tall man's advantages. How, then, may the problem be attacked?

I have taken the key-hole as a point of experiment. We have but little reason to retain the original shape of the key-hole other than tradition. It was devised to make a place for players to line up when a player had been fouled so that he could take an unobstructed shot at the goal. The circle was devised to keep the players away from the two players who were jumping. The six-foot lane naturally became the only area marked off on the court near or surrounding the basket which could be designated as the three-second area when said rule was devised. It is my contention that this revision of the three-second area will be a considerable advance over the past efforts along the lines of moving the tall man further away and counteracting his advantages.

The area shall consist of an arc struck from the intersection of the center line of the basket and the plane of the backboard with a radius of fifteen feet which is the present distance of the free-throw line from the backboard. The arc shall extend to intersect the end line of the court. A second arc shall be struck from the same center with a radius of nine feet but shall terminate at a point three feet from the center line of the court on each side. Diagram 1 illustrates this proposed area superimposed upon the present free-throw lane.

The rules of the game are but slightly altered with this three-second

MR. LIEGEROT has served as head of physical education at Poston, Arizona, Secondary Schools; Tulelake, California, Union High School; and at Christian Brothers High School, Sacramento, California.

area. The fifteen-foot arc becomes the three-second area and is treated exactly as the present key-hole in such rulings. The nine-foot arc segments become the free-throw lane where the players take positions during a free throw. Illustration 1 shows a typical set-up.

The advantages of this arrangement are simply the observations of the writer but they should appear to be logical under even the most careful scrutiny.

1. The tall man will be restricted to setting up a post at a minimum of fifteen feet from the backboard, thus giving the smaller man a much improved opportunity to assume an advantageous position for the rebound.

2. The area surrounding the backboard will be kept open for offensive as well as defensive maneuvering, thus increasing scoring opportunity and the rebound position.

3. Inasmuch as all points on the free-throw lane will be equidistant from the backboard, there will be no necessity for the position rule of home and visiting players. A player may take any position that is unoccupied on the line without disadvantage.

4. Every player following the free throw has an equal opportunity to assume an advantageous position for the rebound.

The following statistics collected by the writer are offered without comment for the reader's consideration:

On the average, games played with the proposed lane showed an increase of 34 per cent in the total score over games played by the same teams on the traditional court.

Games on the proposed lane showed an average decrease of 26 per cent in the number of fouls committed by the same teams on traditional courts under identical conditions.

Under the same conditions the tallest man on the court made an average of 31 per cent fewer rebounds.

The writer made the following observations which are also given without comment:

There seemed to be considerably less time time taken in completing the free throws in games played on the proposed court.

There was a noticeable elimination of congestion around the backboard following shots from the floor as well as from the free-throw line.

One marked disadvantage was shown by the visiting team players in their failure to accustom themselves to the new three-second area. It was felt that their introduction to the new area should have taken place over

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a long period of practice rather than in a single game.

Players showed little resentment to using the new area and felt after completion of the games that it had its advantages over the traditional court.

The writer feels that the proposition has merit and therefore places it before the nation's coaches for inspection, use and judgment. It may be a partial answer to those of the profession who desire to counteract the giants that roam the hardwood of our counrty's basketball courts.

If there are any misunderstandings or if further information is desired by interested persons the author calls for contact directly. Address your inquiries to G. F. Liegerot, Galt, California.

Preparation for Tournament Play

(Continued from page 30)

game to be played. Then, too, I think that it helps bind them together as a unit, and thereby creates that much more team spirit among the boys. If there is another game previous to one's own game, I think it offers a certain amount of relaxation to the boys if they are able to see about half of that game before dressing, and it also gives them a chance to watch various individuals or their next opponent, if that might be the case.

All the work of the players and the coach may be nullified if the squad does not have the right mental attitude—a desire to make personal sacrifices on or off the playing floor whenever necessary for the benefit of the team; a desire to get into the game and yet be satisfied if not called upon to participate. The boys must have respect for all decisions made by the officials even if these may seem to be decidedly against them at times. This may be very difficult but will be to the individual's own advantage for no boy will be at his best if his mind is concentrated on the official rather than his part of playing the game. It may also be detrimental to his relaxation and cause him to make mechanical and mental errors that could otherwise be avoided.

When boys have gone through a season's play that has entitled them to play in a state tournament, I doubt very much if there is any need to key them up for tournament games. Certainly they are anxious enough to play without putting any further pressure on them. Encouragement to instill confidence would probably be of greater value at that time.

The type of game they are playing is mostly what they have learned by constant repetition during the season, and changes to meet the opposition should be at a minimum and then specifically stated and understood by all. It is very easy for coaches to take things for granted and to find out only too late that a particular maneuver was not clearly understood. I have often had boys say "yes" to a situation just as a cover-up for lack of complete understanding. Again I say, *the coach should not take things for granted.*

Our tournament this year is a good example of how, even in this age of basketball hysteria, games properly managed and officiated may be played without developing a spirit of bitterness on the part of the players, coaches and spectators. One college coach paid a fine tribute to the participating coaches by saying that some college coaches could take a lesson from the attitude the coaches showed during the tournament. The spirit which was prevalent is shown by a quote from the Minnesota State High School League Bulletin. "One cannot look upon the tournament without recognizing once again the fine spirit of sportsmanship which was characteristic of the entire series of games. The tension of the tournament games is intense, the rivalries are strong and the stakes are high, yet not a single unfortunate incident marred the eleven game series. The schools, players and everyone of the more than 73,000 spectators deserve congratulations and commendation for their part in this accomplishment".

Pitching

(Continued from page 11)

effort to retain equal effectiveness from this stance.

Bases are stolen on the pitcher. One who is able to hold men on expertly is an asset to any club. The throws to the respective bases from this position must be accurate and easy to handle. A throw to first base should be on the inside of the bag and just above the ankle of the first sacker. The pitcher should always remember it is the deceptiveness and speed of the move toward first and

not how hard he throws the ball that catches the runner or holds him near the bag.

A pitcher should always know who is covering second base whenever a possible play at that spot is in the offing. The ball should be thrown about two feet to the first base side if the second baseman is covering, and about two feet to the third base side if the short stop is covering. If the play involves a tag, the ball should be knee high or lower. If the play involves a double play or an ensuing throw by the receiver, it should be shoulder high. These accurate throws involving the saving of split seconds are often the difference between defeat and victory.

The pitcher is the only man who can break up the squeeze play. If it is on, and a right-handed hitter is facing him, the pitch must be high and inside. If a left-handed hitter is facing him, the pitch must be outside far enough so that the hitter canot legally get to it.

It is imperative for a pitcher to know what pitching position to assume with men on the bases. The position of "man on" is taken with first or second occupied, first and second occupied, or first and third occupied. One may use his wind-up with a man on third, men on third and second, or the bases loaded. A short wind-up is recommended whenever third base is occupied.

The ace thrower today studies his opponents thoroughly. If it is impossible to gain this information prior to the game, a concentrated study of his opponents during their hitting practice will be of great assistance.

A good change-of-pace is the finest pitch in baseball. The fast ball and a sharp curve will be far more effective if mixed with a "slow fast one" and a slow curve. The waste ball is always a fast ball. The pitcher should be sure it is high and outside; the catcher has a purpose for calling it.

The conflict between the pitcher and the hitter is simply a question of timing. It should be the constant objective of the pitcher to throw the hitter off in his timing by serving him a mixture of pitches at different speeds. The low curve will be hit into the dirt more than into the air. The pitch should be kept low when a ground ball for a double play is needed. When a fly ball will score a big run, the pitch should be kept low.

A good solid pitcher stays ahead of the hitter, enabling him to force the hitter to hit his pitch. He will hold the base-runners on effectively, field his position efficiently, possess confidence and never be careless with poor hitters. It should be uppermost in his mind to listen to his teammates for suggestions and never to loaf on the mound. He has a burning desire to win, always realizing that his effectiveness will be the major contribution to victory. The key to his success is constant improvement in the various phases of the game as discussed above. The key to this goal is untiring work.

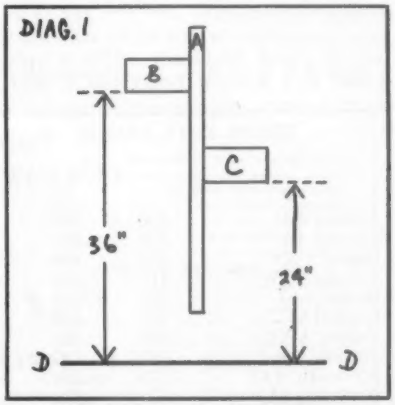
Teaching the Start

(Continued from page 24)

the palm of the hand well off the floor. (Exercises to strengthen the hand, wrist and fingers will pay good dividends in the dash.) The elbows assume a semi-locked appearance as the shoulder, elbow and thumb present a continuous line almost perpendicular to the floor.

As the sprinter develops co-ordination and arm strength the left block may advantageously be inched closer to the starting line with the shoulders moved ahead past the line's extended plane. The toes and ball of the foot are pigeon-toed into the blocks to assume the most powerful position of thrust in accordance with the normal line of muscular attachment and structure. The legs are right-angled to the starting line, tending to point slightly inward. Illustration 1 (posed by Philip Hahn, St. Louis University 49-second quarter-miler) correctly illustrates the to-your-marks position.

At the get-set command (Illustration 2) the shoulders and arms remain practically unchanged while the stern is raised to a point slightly higher than the shoulders, crouching the leg muscles at an angle of maxi-



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mum leverage. The head is not moved up to look at a point fifteen feet up the track because the ungraceful, unnatural position humps the neck and upper-back muscles causing strain and discomfort. Instead the sprinter looks vacantly downward, concentrating his attention on the report of the starter's gun.

As the movement of the arms precedes that of the legs in the start, the left arm is thrown forward vigorously while the right is jerked back along the ribs. Inasmuch as the start is initiated by the forward thrust of the left arm, it appears prudent to concentrate one's nervous energy on the left hand, training muscle and nerve to respond instantaneously to the crack of the gun.

As the left arm is whipped forward and the right snapped back, the left leg drives the body ahead with maximum, propellent force. A short, rapid right step prevents the athlete from falling flat as gravity and forward thrust join hands to propel the sprinter forward. Short, pumping, vigorous steps and co-ordinated, energetic arm action, combined with low torso position, effectively accelerate the sprinter to attain early maximum speed.

In figure three, Hahn is demonstrating commendable form in that he is relaxed, the torso is low almost parallel to the floor, arm action (a tremendous factor) is forceful and leg drive is quite good.

An efficient, rapid start is a potent weapon in the quest of victory on the cinder path. In the sprints it is like a two-edged sword, a colossal advantage for its possessor.

Keeping Tabs On Hitters

(Continued from page 20)

making a new total success/failure ratio in the last column we may have arrived at an indicator of each batter's value. Let's apply it to some of the batters below.

4. Bowen, the most dependable batter (.631) tops the final ratio with (31 to 14). His .379 batting average is only topped by Cool's .409 whose dependability average was .111 but with *no one on base* he made six of his nine season hits.

6. Applying the former prediction measure to batter Owen of Williams we would expect his .350 batting average to give us a better than 19/20 success/failure ratio (*with men on*). By taking into account his six successes as a rally starter we seem to credit him with additional ability. This new or final ratio of 25/20 is more suitable to his .350 average. The same procedure seems to fit the other batters listed. McGrath (.279) is only (.300) as a lead-off hitter but is high in the other factors — dependability (.512) and eight successes as a rally starter.

Conclusion

In concluding this study let us point out and emphasize that only by keeping tabs on our batters can we hope to get the full use of our players either during the present season or the one to follow. Undoubtedly a more scientific job of coaching can be done if the coach keeps a written record and does not rely upon his memory. The coach may also make a graph of these averages that establishes a method of screening the players and visually evaluates their ability as hitters.

The value of batters who have averages from .273 upward are likely to be the ones who have more success than failures as rally starters and batters with men on base.

Table No. 8

EVALUATION CHART

	1	2	3	4	5	6	7
Cool (W)	.409	.500	.111	1-8	6	7-8	.467
Bowen (A)	.379	.467	.631	24-14	7	31-14	.688
Owen (W)	.350	.429	.487	19-20	6	25-20	.555
Delisser (W)	.319	.415	.414	12-17	10	22-17	.564
Miller (A)	.318	.333	.470	8-9	3	11-9	.555
Gold (A)	.300	.400	.461	12-14	8	20-14	.588
Zeller (W)	.296	.285	.428	15-20	6	21-20	.512
Rosendale (A)	.283	.727	.486	17-18	7	24-18	.571
McGrath (A)	.279	.300	.512	21-20	8	29-20	.593
McNeish (A)	.279	.384	.437	14-18	4	18-18	.500
Genovese (A)	.273	.300	.412	14-20	3	17-20	.459
Ray Mason (W)	.245	.571	.412	11-15	4	15-15	.500

1 — batting average; 2 — lead-off average; 3 — dependability average; 4 — success-failure ratio; 5 — success as rally starter; 6 — total of 4 and 5; 7 — success-failure average.

Some of Amherst's success must be attributed to having better hitters than Williams in the lower end of the batting order, men with averages of .273, .279, .300, .257 compared to .190, .261, .296, .217.

Wrestling Injuries

(Continued from page 6)

should aim to limit the size of the clot. First aid embodies the application of ice or ice bags, cold towels, and compression to constrict the blood vessels.

The limb should be elevated and the patient told to rest it for 24 hours. At the end of this time, further treatment may be instituted. Heat may be used; namely infra-red lamps, hot towels, or short-wave diathermy.

Light massage may also be utilized, but only *above* the injury. At no time under any circumstances should the actual site of the injury be massaged. Massage above the injury will hasten the absorption of the fluid from the injured area.

The stroking movement should always be toward the heart with the hands working gradually toward the affected area, until, at the final stroke, they are about an inch away from the actual injury. The heat and massage should be applied daily and a compression bandage worn for several days.

General Hints

The wrestling room should be light and airy and the cover of the mat washed or disinfected daily. No one should walk on the mat with street shoes.

The boys' working clothes should be laundered at least once a week. This includes socks, supporters, shirts, and pants. Each boy should have his own helmet and there should be no swapping of helmets at any time unless they have been cleaned.

All mat burns and abrasions should be properly treated after every practice and match. It is a good idea to have the boys apply some alcohol to their necks, ears, and faces after every workout as a preventive against impetigo.

Speed in Track & Field

(Continued from page 12)

lin permits unlimited space for acquiring momentum. The American back cross-step has ignored this fact almost completely and has thus held up

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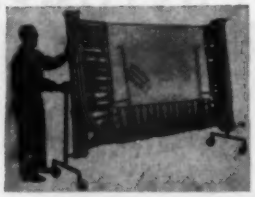

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American javelin throwing for years. The American hop style permits speed but places major importance upon power and position. When a fast run is attempted, either position is lost or momentum is dissipated before it can affect performance. In the European front cross-step style, momentum is rather easily maintained up to the right crucial moment, but again, usually at the expense of power. In the heavy weight events, momentum is greatly limited by the small size of the area in which throws must be made. In the hammer, speed in the "preliminary" movements has for many years been considered essential, as shown by the early perfection of two and even three turns, despite the impossibly small seven-foot circle.

In the discus, momentum is still thought to be of lesser importance than balance and co-ordination despite the fact that the major changes in discus form during the past 20 years have been toward acquiring greater momentum in the turn. Schroeder of Germany was the first great champion to add another quarter-turn to the form. Fitch of Minnesota was the first champion to achieve "falling with balance" throughout the turn. Gordien has gone beyond him in this respect, but even he, with another five years of practice, might well add momentum far beyond what is now considered possible. Two turns with the discus may some day furnish the answer.

In the shot put, the value of momentum is finally gaining primary consideration. Coaches have talked speed for 30 years or more but it has been horse and buggy or automobile speed rather than the "jet" speeds of the future. For 15 years I taught that balance and position in the center of the circle or at the take-off are all-important and that momentum across the circle or in the run should never be permitted to detract from it. "Relax, hop easily to the center of the circle, hesitate, catch your balance, gather yourself, then sock it viciously" illustrates the method of such coaching.

It is actually impossible, however, to define the fundamentals for best possible achievement without placing as great an emphasis upon momentum as upon the other elements. Maximum performance must somehow coordinate the greatest possible momemtum of the body with the action of the most powerful relevant muscles and concentrate both at the right instant in producing the greatest velocity of the implement involved. In the jumps, the implement is the body itself; in the weights, it is the shot, discus, javelin, or hammer. In any of these events, to increase momentum with disproportional decrease in power should not be encouraged; but neither should an overconcern for power through position and balance be permitted to bring about a disproportional decrease in momentum. To understand the essential nature of both factors is necessary to correct coaching.

Some Champions Use Speed with Little Form

Just prior to the war, a group of fast, well-co-ordinated shot putters ignored the emphasis on position. Hackney of Kansas and Watson of Michigan, for example, both put the shot over 54 feet by zipping across the circle, and, with no hesitation or concern for proper position of the feet or hips, drove themselves up into the put. For four years at Michigan we insisted that Watson consider carefully the placement of his left foot, and emphasized the importance of the delayed right hip. He followed such instructions perfectly as long as the situation called for only 50 or 51 feet, but as soon as the big meets came up, all interest in balance and position was gone. "Zoom" he would go across the circle, slamming his left foot against the toe-board, but far to the left, "in the bucket", bringing his "delayed hip" through fast like a discus thrower, but concentrating his momentum in a desperate drive up into the put. "Too bad," we used to say, along with the other coaches, "if only Big Bill, (he weighed 196 pounds) could learn good form, he'd beat Torrance's record." Then we'd start all over again, "Slow down, Bill, take it easy. You can't use all that speed. *Position, position, position!*" Bill never learned all we had to teach, but on the other hand, we never learned from him all he had to teach us, namely, *that body momentum is as much a part of good form as position and balance itself.* The more momentum an athlete can acquire within the limits that have been established for his event (a seven-foot circle in the shot, for example) the greater his perfection of one aspect of right form, and the greater his possibilities for best performance.

Fonville Had Speed and Form

The putting action of Fonville fulfilled all the requirements of accepted

form, yet no more perfectly than several dozen other athletes, (Houser, Southern California, 1924; Rothert, Stanford, 1928; Blozis, Georgetown, 1941). The real source of his great performance lay in the momentum with which he concentrated his form and action behind the shot. In this respect, he was, and is, the greatest stylist the shot event has ever known.

Momentum requires time and space. Momentum in the shot or discus cannot begin after the athlete gets to the center of the circle, any more than is the case in the hammer throw. Momentum begins at the back of the circle in the shot and at the beginning of the turn in the discus. It must be accelerated constantly as the action goes across the circle. This accelerated momentum is as much a part of good form as are the details of position and balance. Further, it must be given as careful consideratian in coaching and practice as any other phase.

(*To be continued in the March issue.*)

A Two-Step Plan

(Continued from page 10)

to study and develop proper form if he is to clear any respectable height with this technique. Here we have the jumping action reduced to its bare essentials. The jumper must generate enough momentum to carry him past the bar and enough lift to permit him to clear the height in two steps. This requires rigorous training in co-ordination because he can no longer depend on the speed of his run to produce lift. Hence, the emphasis on *form*.

2. *What height can a jumper clear with this technique?* It takes some time to learn this co-ordination. Two weeks should be ample practicing it at low heights every day. The height cleared depends, of course, on the jumper's form and his ability. Tom Scofield was usually able to clear five feet seven inches with the two-step Western roll in sweat clothes without any difficulty. His best effort was five feet eleven inches with the two-step Western roll and six feet with the two-step straddle roll, both efforts done outside on a warm, sunny day. At Kansas, a freshman who has cleared six feet in high school usually is able to negotiate five feet six inches within a few weeks.

3. *Does working with this technique harm the timing with a regular run?* From our experience with Scofield and with other jumpers at Kansas who have worked with it—no. To

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the contrary, it is a definite aid in the timing of the full-run jump because the jumper learns better what he does in the last two steps. All the jumpers who have worked seriously at this technique have shown improvement in their performances.

Let us now discuss the jumping part of the workout. Using the "two-step" technique, the jumper is able to do some jumping every day, but only after a two-week conditioning period of daily generalized workouts with easy two-step jumping twice a week, Monday and Wednesday, and three-quarters effort full-run jumping on Friday. In pre-season work his weekly schedule will appear something like this: *Monday*—generalized workout, light two-step jumping. *Tuesday* – generalized workout, full-run jump for height. *Wednesday* – generalized workout, light two-step. *Thursday* – generalized workout, heavy two-step. *Friday* – generalized workout, full-run jump for height.

In workouts during the season the schedule is the same except nothing but light generalized workouts or complete rest on Friday.

What about other events in the high jumper's workout? If he has always participated competitively in more than one event then he will distribute his time accordingly. If he has not, he will undoubtedly wonder what effect place-running, hurdling, weight throwing and other events might have in his workouts.

Unless the athlete is unusually adept and has lots of time to devote to his workouts I would not recommend him taking up other events with the intent to compete. Mastering the high jump is a full-time job for any man. However, using the other event as a source of relaxation, co-ordination and training is certainly beneficial. The study of other event forms and techniques always throws light on one's own particular problems. We like to recommend the following events as part of the high jump workout: shot put, discus, javelin, hurdles (all heights), running (up to 440 yards).

These events we do not recommend for high jumpers: broad jump, pole vault, running (over 440 yards).

In the first group any scaling-down techniques that can be invented are recommended, such as: (1) Running flights of only three hurdles set at various heights for timing training. (2) Working with the 8- and 12-pound shots and the high school discus. It should be remembered that the primary purpose of these extra events is to introduce variety into the jumping workouts—they are not to be trained for competitively. The jumper should use one or two of these extra events twice or three times a week if he feels like it.

This outline will give a thorough workout program for high jumpers including a daily thorough warm-up and conditioning for the whole body, jumping schedule, and work in other events.

Free-Lance Basketball

(Continued from page 44)

State Finals at Madison. Bessemer, incidentally, went to the Michigan State Semifinals in 1948. The free-lance game was started at Hurley because of a lack of tall players. Since 1946 Hurley's tallest man has been six feet. A number of people have been amazed by the rebound control we have had with these comparatively small players. The answer is good timing, a lot of drive, some natural ability, but above all, much time spent practicing rebounding. We stress rebounding and defense at Hurley, spending 75 per cent of our practice sessions on these two important phases of the game.

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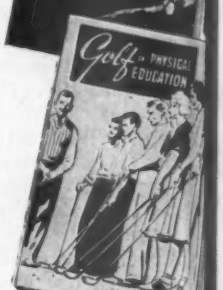

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Training for Track

(Continued from page 36)

the thigh toward the ground. During a muscular contraction of the quadricep muscle group, the hamstring group must relax. A pulled hamstring will result if the hamstrings fail to relax quickly enough for the contracting quadriceps. (4) Warming-up lowers internal friction in the muscles by raising internal muscular temperature.[8] This allows quicker muscle reaction and greater muscular efficiency. (5) Practicing the specific activity tones up the required neuromuscular co-ordination. In events and activities which involve timing, this principle is especially important. It is also important in middle distance and distance running where the runner must gain a sense of rhythm in his stride.

A thorough warm-up does not sap either energy or strength. On the contrary, if the muscles are not thoroughly warmed-up, quick reaction and ease of effort are sacrificed. *An athlete thoroughly warmed-up really expends less energy and has less chance of muscle injury.*

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man because it is important that every squad member know how and why he needs a very thorough daily warm-up. *Generally, one pulled muscle from inadequate warming-up will sideline an athlete for the season.*

For the first week of pre-season training, the coach should lead the squad through a series of calisthenics. This is the simplest and most effective way of teaching the squad its warming-up exercises. After the first week each boy should do his own warm-up drills, because group movements do not make adjustments for individual differences and needs.

Every workout should begin with a short jog of 100 or 200 yards followed by some exercises. Three to six wind sprints are followed by more exercises.

The following exercises are designed to give the track athlete a very thorough warm-up. The daily warm-up consists of a minimum of two exercises from each group.

Some exercises will overlap. Consideration of the human musculature and its complexities accounts for most of this overlapping. The detail given to this matter is in line with the author's conviction that most high school, and for that matter, college athletes do not thoroughly warm-up.

A. Wind Sprints.

B. Leg Exercises. I. *Hamstrings* (back of thigh). Bottoms Up. Cherry Picker. Toe Touch. Hurdler's Stretch. Bicycle Pedal. Shake a Leg. Thigh Squeeze.

II. *Quadriceps* (front of thigh). Thigh Stretch. Russian Dance. Jumping Jack. Half and Full Knee Bends. Double Treadmill. Bicycle Pedal. Shake a Leg.

III. *Gastrocnemius* (lower leg). This muscle and associate lower leg muscles receive a good warm-up with wind sprints. For additional exercise, skipping rope or bounding is recommended.

C. Hip Exercises. Supine Hand Touch. Hip Circle. Straddle Hop. Hurdler's Stretch. High Kicking. Hip Stretch.

D. Trunk Exercises. I. *Abdominal Exercises.* Sit-ups. Jack Knife. Leg Lift. Sitting Tucks.

II. *Back Exercises.* Chest Raise. Rocking Chair. Back Bend. Back Arch.

III. *Lateral (side) Exercises.* Hurdler's Stretch. Sitting Trunk Twister. Round the World. Standing Trunk Twister.

1. Bresnahan, G. T. and W. W. Tuttle, **Track and Field Athletics.** (St. Louis: The C. V. Mosby Company, 1947). p. 37.

2. Kennedy, T. F., "Facts and Figures on the Effects of Tobacco." **J. Royal Army Med. Corp.,** 57:451, 1931.

3. Cureton, T. K., "Factors Governing Success in Competitive Swimming," **Swimming Pool Data and Reference Annual,** New York City: 404 Fourth Avenue, 1936.

4. White, C. L., "Smoking as It Affects Basic Physical Fitness," Unpublished Masters Thesis, University of Illinois, 1949.

5. Henderson, Y. M., W. Hoggard, and E. S. Dolley, "The Efficiency of the Heart, and the Significance of Rapid and Slow Pulse Rate," Am. J. Physiol., 82:512, 1927.

6. Pearl, R., "Tobacco Smoking and Longevity," **Science,** 87:216, 1938.

7. Morehouse, L. E., and A. T. Miller, **Physiology of Exercise.** (St. Louis: The C. V. Mosby Company, 1948), p. 303.

8. Asmussen, E., and O. Boje, "Body Temperature and capacity for Work," Acta Physiologica Scandinavica, 10:1, 1945.

Tricks of Trade in Hitting

(continued from page 42)

wall so as to give each batter practice during inclement weather.

4. It is also possible to get good practice by using a batting tee similar to the one developed by Bert Dunne, author of the book, "Play Ball Son." Any homemade device that will raise or lower the ball will serve the purpose (Illustrations 6 and 7).

Most batters should hit differently against right- and left-handed pitchers. Those who consistently try to pull left-handed pitchers usually find that they have a difficult time accomplishing this. This is particularly true of inexperienced players. Most left-handed pitchers naturally pitch their fast ball outside to right-handed batters, and inside to left-handed hitters. These same left-handed hurlers will also use their curve ball more against left-handed hitters because the ball starts at the hitter and then breaks away from him. Southpaws, as a rule, depend on their curve ball (usually a sidearm curve) to dispose of left-handed hitters, and on their fast ball outside to dispose of the right-handed hitters.

As most good hitters know, it is quite difficult for the average hitter to get the good wood of the bat on an outside pitch and hit it properly when trying to pull the ball. Therefore, it would be best to set one's self in the batter's box so as to hit to the opposite field. This can be done by placing the front foot forward, close to the inside line of the batter's box (Illustration 8).

Another method is to turn the toes

of the front foot toward the catcher (Illustration 9). This places the stride foot so that it is easier to stride toward the far side of the plate and hit to the opposite field.

I know of one extremely successful high school coach who only employed left-handed pitchers during the last decade of his coaching career. This was due to the fact that high school batters do not know how to hit against southpaw hurlers. They usually stand up at the plate and swing to pull a pitched ball that is breaking away from them. On the other hand, players who have trouble pulling an inside pitch to their power side need only turn the toes of the front foot toward their power side a bit more so as to be able to stride easier and more quickly in that direction (Illustration 10).

Turning the toes of the stride foot out a bit more also gives greater freedom of movement to the hips, a factor which increases batting power (Illustration 11).

In gripping the bat it is important that the fingers are wound completely around the handle. When inspecting the grip the coach should be sure to check the index finger and thumb of the top hand. These two digits oftentimes are allowed to slide up away from the focal point of the grip. Be sure that all the digits of both hands are wound completely around the handle.

For a faster swing and greater power the palm of the top hand should be turned so that it faces forward toward the pitcher. The knuckles of the top hand should point toward the catcher (Illustration 12).

Andy Pafko, during the 1948 season, surprised the Chicago Cub fans by suddenly becoming a home-run hitter. This can be traced to a trick of the trade in batting passed along to Pafko by Milt Stock, a Cub coach. He had Pafko turn the palm of his upper hand so as to increase the speed of his swing, and also at the same time increase the arc of his swing so as to get more power into it.

Probably the most difficult task facing any baseball manager or coach lies in trying to cure batters of stepping in the bucket. This fault can only be cured when the batter is particularly sincere in his intentions to rectify the fault and is willing to give complete co-operation toward that end. There is considerable disagreement as to the extent of the progress that can be made. However, all techniques to break the habit should be employed until a workable method is found.

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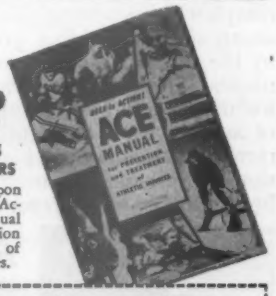

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THE Union Metal Manufacturing Company, Canton, Ohio, has just issued a new four-page folder containing comprehensive information on tapered steel poles and mountings designed for lighting outdoor sports activities of every description. In addition to clear diagrams showing provisions made for mounting from one to six lights per pole, the bulletin illustrates a number of typical recreational lighting applications and gives complete information and specifications on the company's full line of standard poles ranging up to 40 feet in height. Copies are available on request.

THE Dri-Flo Marker, a new marking pen which makes an indelible marking on any type of porous surface, is now being manufactured by the Dri-Flo Manufacturing Company, 643 East 10-Mile Road, Hazel Park, Michigan. The precision-made aluminum pen uses an indelible, water-proof fluid which is stored in a felt pad in the barrel of the pen. The marking tip, made of treated felt, can be used to mark any article with a porous surface such as boots, blankets, clothing, shoes, luggage, etc.

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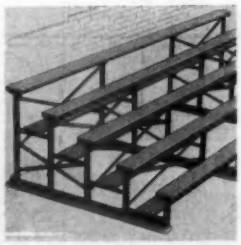

A LINE of trophy plaques which sell for just about half the cost of conventional plaques with engraved plates are being manufactured by Bronze Fabricators, 5147 Brown Avenue, St. Louis, Missouri. The secret of this economy is bronze finished, raised-letter head plates, included at no extra cost in the price of the walnut plaques. Sculptured event panels for the plaques cover all athletic and scholastic activities. They have been designed to stress action and three-dimensional realism.

I have had some degree of success with the following methods.

When the batter is a foot-in-the-bucket hitter to a modified degree, it may help to have him turn the toe of his front foot (the stride foot) inward so that it points toward the catcher more than usual. Sometimes it is best to have the batter use a closed stance when using this little trick. In the closed stance, the front foot is placed close to the inside line of the batter's box. The toe of the front foot, however, must be turned inward.

Turning the toe of the stride foot inward locks the hip action so that little rotation is possible. This decreases the outward rotation of the hip which is so prominent when a batter steps in the bucket during the swing.

Another system that might prove helpful to this type of batter is to have him take his stance at the plate with most of his weight over the front foot (Illustration 13). When this is done, the body weight anchors the striding leg so that it cannot pull away from the plate. With this method the batter will have to use his arms more in the batting process since he will have little or no rear leg push-off or body drive behind the bat. Under these circumstances it might be best to have the batter choke up on his grip. Foot-in-the-bucket hitters can break their bad habit by using this method of batting in pepper games.

Another method proved beneficial at times is that of having the batter bend his knees slightly and slump his hips inward toward the plate (Illustration 14). This slides the body weight forward toward the plate and over the balls of the feet, thus making it difficult for the batter to pull his weight backward to any great degree.

Batters who step in the bucket are off-the-heel hitters. They shift their weight backwards just prior to and during the swing. Often this can be seen by watching the batter's heels and hips just prior to and during the swing. Correction of this is based on eliminating these two faults through tricks of the trade in batting that will distribute more of the hitter's body weight toward the plate.

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Athletic Equipment Production

(continued from page 22)

not soon remedied will force the closing of many golf courses in that area. Should this situation prevail the lack of demand for golf equipment in such a populous area would have a marked effect on golf equipment production.

The thinking of manufacturers and dealers attending the Natinal Sporting Goods convention indicates that 1950 will be the greatest year ever for the production and sale of athletic equipment, generally speaking. As mentioned above, some sports may suffer due to weather conditions, but the over-all picture is very bright.

While in attendance at the show we were repeatedly informed by manufacturers and dealers alike to advise the coaches to place orders for specialty clothing items as soon as possible. Even though the manufacturers have increased their production many times as indicated above, it must be remembered that the items mentioned are staple items and production can be maintained on these items throughout the year. Uniforms are made to order and that is why we pass along the advice handed us—namely on all athletic clothing, place your orders now.

Our Basketball Offense

THIS concludes our basketball material for the school year. We started with three articles in September and for the next five issues carried articles dealing with the sport. Counting the four articles on basketball in this issue we have carried a total of thirty-nine articles on various phases of the sport. This is twenty-five more articles than the next coaching magazine devoted to the largest school and college sport.

Our scouts worked overtime but they came up with some interesting statistics on both ours and our opponents' basketball offense from September through January.

Number of Articles: Athletic Journal 35, magazine S 14.

Number of lines: Athletic Journal 8,563, magazine S 3,246.

Number of Diagrams: Athletic Journal 215, magazine S 69.

Number of Pictures: Athletic Journal 163, magazine S 72.

Number of College authors: Athletic Journal 14, magazine S 7.

Number of High School authors: Athletic Journal 20, magazine S 5.

Number of miscellaneous authors: magazine S 2, Athletic Journal 1.

The scouts report that we may not be the best but that we should do all right in our own league.

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FEBRUARY 1950

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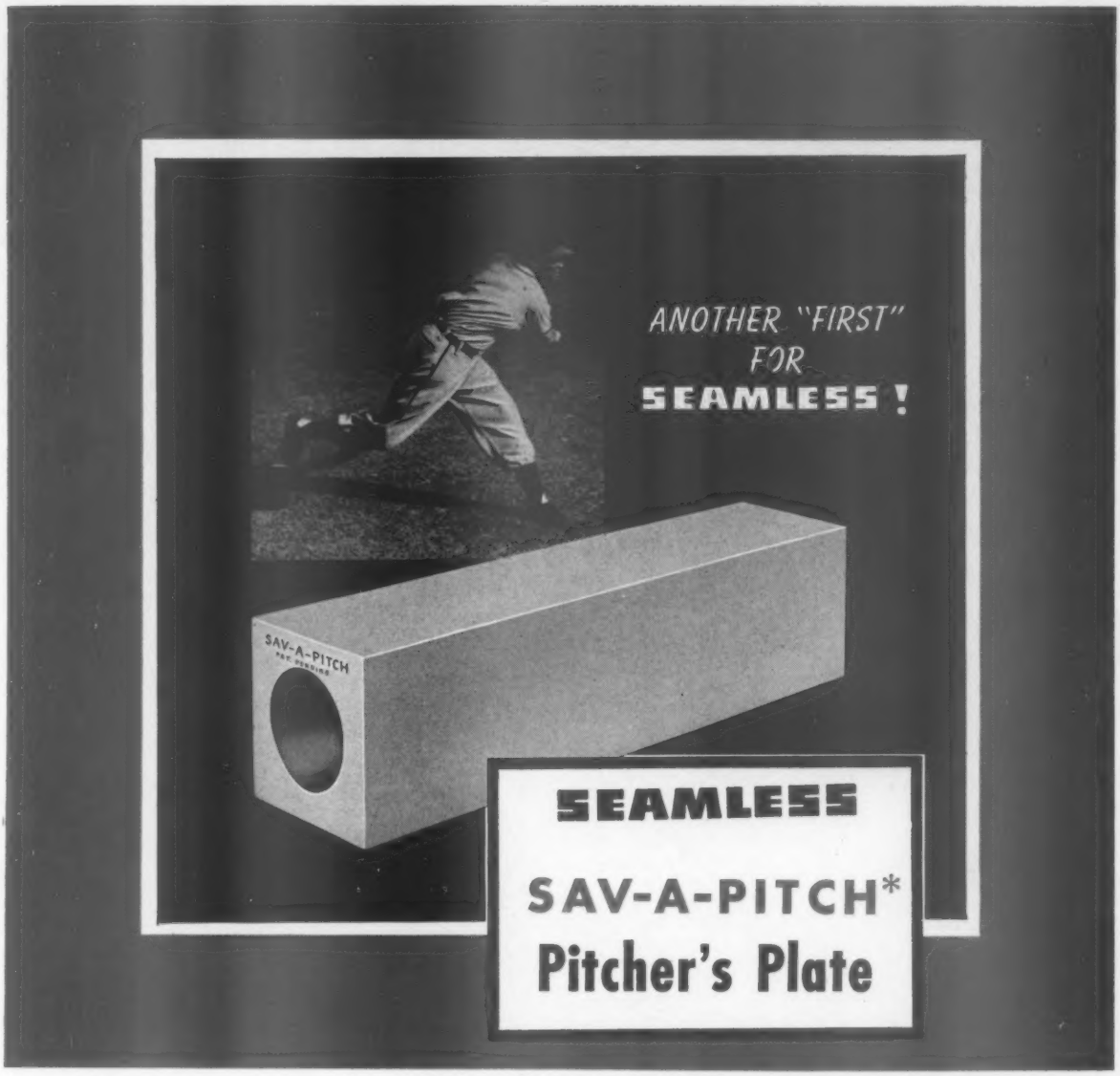

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